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MEETING OF THE SECTION OF HOSPITAL ADMINISTRATION, JUNE 19, 1918.

Hospital Standardization—Its Meaning.

By John T. Bottomley, M.D., F.A.C.S., Boston.

Hospital standardization, properly understood in its motives by both parties to the project, administered in a spirit of toleration and common sense, and accepted in a disposition of willing coöperation, cannot but result in a splendid gain in the general efficiency of the hospitals of this country. The high position of the national bodies supporting the movement, the character and personality of the men having most to do with its inception and its conduct guarantee the honesty and fairness of its principles as well as the prudence of its administration. The coöperation of the hospitals on the part of both the executive and the professional personnels may, I believe, be safely assumed, provided that the object of the movement is clearly seen and the means proposed for its accomplishment properly appreciated.

It is hoped that this brief paper will set forth in a sufficiently simple and concrete way the meaning of hospital standardization and the proposed method of beginning its accomplishment. I have no desire to be regarded in this matter as a spring of knowledge, primitive and original, but rather as one of the channels through which flow the thoughts and sometimes the very words of those in whose minds the idea of hospital standardization first took form and by whose hands the machinery has already been set in motion.

Now, to standardize intelligently anything material the very first requisite is a clear view of the object or end of the thing's existence and of the best legitimate means for the attainment of that end. Why do hospitals exist? For what purpose are they built and maintained? Simply and solely for the patient and the patient's good. Patients are not for the use and good of the hospital, as many seem to assume; hospitals exist solely for patients; the patient of today and the patient of tomorrow, his care, his relief—this and this alone is the essential object of the being of hospitals; other desiderata may accompany the attainment of this end or may follow in its train, but these are secondary and not primary in any sense of the word. The safety, the good of the patient, is the supreme law of every hospital and, as a necessary consequence of this fact, patients have a natural, inalienable right to expect from hospitals adequate care and treatment. If patients (or, to put it another way, the public) are not getting such care and treatment, they have a right to know the truth, to seek the cause and to have the wrong righted. These facts are fundamental and must be thoroughly understood as basic before any rational discussion of the question of hospital standardization is possible.

It is manifest, of course, that the best means of securing adequate treatment of patients is the proper manning, equipment and conduct of the hospital itself. That goes without saying.

Hospitals existing, then, for the patient, his cure, his relief and the only means to this end being the medical profession, the standardization of hospitals must mean simply this—seeing to it that the highest possible percentage of the best medical knowledge and skill available in a community reaches the patients in the hospitals of that community. This is certainly not an unjust proposition, surely not an unfair request.

Of course, it is evident that the hospital problem and consequently the standardization problem differs in different communities. The problem of the large municipal hospital is radically different from that of a hospital in a rural community; entirely different populaces are to be served; entirely different conditions must be faced. But however much the numerator of the hospital fraction (so to speak) may vary in conditions, in surroundings, in problems to be solved, the denominator, that remains constant and must remain constant, is the getting to the patient the highest possible percentage of the best medical skill available. This application of medical knowledge and skill to the hospital patient can take place only through the physician; hence the standardization of hospitals really means only the standardization of the medical profession.

How is this standardization to take place? Is it to come through a force outside the profession or is it to begin and to be carried out from within? No standardization, no reformation that really has a permanent desirable effect can come from without the body to be standardized, to be reformed. The incentive, the resolve to improve and to do better, as well as the determination to carry the resolve into action, must come from within, else no durable improvement can result. Fortunately, as with the standardization of medical schools, the movement has received its impetus from within the medical profession itself, and this fact augurs well for success.

The problem, however, is by no means easy of solution in all its details. Its consummation will not come at once. All hospitals are not rich; many hospitals are poor; all the good work is not done by rich hospitals exclusively nor all the poor work by the poor. Money and bricks and marble and nattily clad attendants do not make a good hospital, but brains and effort and conscience and perseverance do. This movement for hospital standardization has no intention of putting a premium on money, bricks and marble, or of imposing a handicap on brains, effort and conscience; it looks forward to aiding every hospital, to help it do good work, if it is doing poor; to do better work, if it is doing good. We do not mean to be exclusive; we want to get every institution worthy of the name "hospital" interested in this movement. If we are going to succeed, we must not set too high a standard in the beginning; but there must be some minimum degree of possession of certain qualities below which we may not go. We plan to keep the minimum requirements at such a level (at least, in the beginning) that 90% of the hospitals of the country will be registered as willing participants in this movement. To attempt to set up an aristocracy of hospitals would be to defeat our own end. If we once succeed in getting the great mass of hospitals in this country vitally and willingly interested in this cause, there can be no question as to its success.

What, then, are we to set forth as our primary requirements? *First* of all, a sufficient record of the patient. A sufficient record does not necessarily mean a complicated or an extensive one. A sufficient record will show what symptoms led the patient to come to the hospital, what facts in his earlier history have a bearing on his present illness, what the examination of his physical condition disclosed, what the pre-treatment diagnosis was, what was done for the patient, what the ultimate diagnosis was and what was the result of the treatment.

Second. Sufficient laboratory space and equipment for the doing of the ordinary chemical and microscopic tests. Elaborate laboratories are not demanded. Provision should be made for the usual clinical examination of the blood, the sputum, the stomach contents and the excreta. The microscopic examination of tissues removed by the surgeon is to be required. Many hospitals cannot afford the full-time services of a capable pathologist, but it is within the reach of every hospital to arrange for the doing of its pathologic work by the pathologist of a neighboring institution. I believe, too, that we are fast approaching the time when the State, through laboratories at various central points within its limits, will undertake such work for all who may wish it.

Third. The hospital will be asked to establish some supervision over the professional work done within its walls. This supervising authority may be vested in the trustees, in the executive or in a committee of the staff appointed by the staff. That some such authority exists and is active is the essential thing; what it is or where it is matters little. It must be active, sensible and just. My personal choice at present would be a small committee appointed by the staff from its members. I realize that this solution is not entirely free from objection, but responsibility must be placed somewhere and a staff committee seems the most fitting and least objectionable place for it.

These are the three preliminary requirements and to me they do not seem unreasonable. Standardization will for a time, at least, have little to do with the executive conduct of a hospital except in a very general way. The cost *per diem* per patient is not of paramount importance. The care *per diem* per patient and the result of that care is of the greatest moment.

We hope to increase the interest of trustees and executives in the professional work of the hospital—in the professional output of the institution they are running. Hospital efficiency is what we are looking for. Is the treatment in this or that hospital adequate and timely? Are the patients restored to health as frequently as possible, as far as possible and as quickly as possible? The answer to these questions is far more important and essential than the determination of how the coal is brought to the furnace and the ashes carried away, etc.

How is a beginning to be made? It is proposed that a visitor appointed by the national bodies interested in this movement will come to a hospital and meet the trustees, the executive department and the professional personnel. A friendly conference will be held, the object of the visit explained and, if the hospital authorities are willing, an inspection of the hospital will be made, not in any inquisitorial spirit, but in a kindly, friendly, tolerant way. The visitor again meets all having to do with the hospital conduct, discusses his findings with them, tells in what way he thinks the hospital may be improved and offers for consideration such ideas as he may have drawn from his inspection. At some later period (six or eight months) he makes his next visit. No report is to be made to the central authority until after his second inspection.

As I understand the matter, hospitals are not to be classed as A, B, C, D, etc., but as institutions where satisfactory conditions do or do not obtain.

A full discussion of this whole matter cannot be presented in a ten-minute paper. Undoubtedly, I have left much unsaid that might well be said. I hope, however, that I have outlined with sufficient clearness the object of this important movement, the character of its motives, and the simple primary conditions with which every hospital will be asked to comply.

The basic, the fundamental idea of the whole affair is the fact that hospitals exist primarily for patients, not patients for hospitals. *Primum non nocere* should be written large over the door of every hospital. To carry that motto into practice in the ward at the bedside of every patient and in the operating room at the doing of every operation is the end that hospital standardization hopes to attain.

DISCUSSION.

DR. HOMER GAGE, Worcester, Chairman: Dr. Bottomley's paper is open for discussion. He has presented very concisely and clearly, it seems to me, the objects which the College of Surgeons and the allied institutions and hospital association authorities have in mind. I think these objects are exceedingly desirable and quite within reach. The advantage of having a complete hospital record such as Dr. Bottomley speaks of, not a long one, but a complete one, was illustrated to me in a conversation I had the other day with the superintendent of a large municipal hospital.

He received a telephone message one morning from a physician asking for the admission of a patient with a certain disorder, and stating that while he did not wish to dictate what the hospital should do, if possible he would prefer to have the man not put on Dr. So-and-So's service. The hospital superintendent had sufficient curiosity to want to find out what the reason for this request was. He called the physician up later on and asked him his reason and the man replied that it was because of that man's record in his service, that in his opinion it was not satisfactory. The physician said that he had no personal feeling in the matter at all.

The hospital superintendent then called in the chief of staff of that department and told him about the case, asking him what he thought. He replied that he didn't think there was anything wrong and felt that the work done by this particular member of the staff had been generally satisfactory. The physician in question was then told of the affair and was asked about some of his cases. He became very angry and said that he was being persecuted; that his results were just as good as anybody else's.

Meanwhile the superintendent (who by the way, has a very wonderful system of complete records and who has a clerk, a man, who if he wants satistics of any kind can compile them from the records on hand), had asked the clerk to take the records of four men occupying similar positions on the staff, the man in dispute being one of them, and bring him these men's records of operations for three months, the character of the operation, the result, and the number of days the patient remained in the hospital, so that when this man came to him and said he was being persecuted he had definite facts to show that his death rate was high, and that the average length of stay of his patients in the hospital was longer than any other man's. He said if the man was not satisfied that he would take the records still further back. The man did not care to press the matter further.

The foregoing simply illustrates one of the advantages of a complete set of records and their value, because it would be of no use to go to a member of the staff and tell him his work is unsatisfactory because you happen to think so. You must have definite proof in order to establish a man's rating.

In addition, there is another factor which Dr. Bottomley brought out, and that is the question of the amount of time spent in the hospital on hospital work, which is always a pretty good index of the amount of interest which a man has in his work and probably of the conscientiousness with which that work is done.

It seems to me that this movement for hospital standardization, if it can be kept upon the simple lines now proposed, will greatly expand and become a thing of immense benefit.

DR. H. B. HOWARD, Boston: Mr. Chairman, I do not think that this matter is quite as simple as you put it. The careful, politic man, if his record is being watched, can dodge a lot of operations he ought to do, and slide them over on the man who is willing to wade through anything, no matter what comes to him. You have to go pretty carefully in getting a man's record from going over a hospital record. If all men were made alike, that might be a considerably easier matter than it is at present. It is a rather complicated job to size a man up accurately from his hospital record. I can remember one occasion when such an effort came near working a great injustice to a very conscientious man who went right into everything without question, but he was doing just as careful work as anybody else. I just bring this up as a matter for thought.

I would like to add one thing more. If you had been in a hospital for a long series of years, you would know there are always certain physicians in the community who shift cases around before death occurs so that the death of the patient actually takes place under somebody else's care, and that, you know, sometimes helps in a way to make the records of men in this class appear good. The community is not a judge of that; it does not see it or know anything about it, but it occurs over and over again. A man out after a clean record can do a lot of work of that sort which may leave his record in better shape in some ways, but very bad in others.

DR. GAGE: I don't suppose we can always forestall the criminal, but most of the doctors in a community know who these men are who want to get a patient into a hospital to die, rather than outside. I think a man gets caught on his record that way pretty well—he establishes a record anyway.

DR. HOWARD: I do not think he does, as a general thing.

DR. GAGE: If the record is a complete one, it will show at the time of entry what the patient's condition was.

DR. G. DEN. HOUGH, New Bedford: At St. Luke's Hospital in New Bedford, a hospital of 250 beds, one of the greatest difficulties has been always to secure good internes. It is almost impossible to get internes who will keep proper records. In the last analysis it comes down to this—that, not having absolute control over the internes, they will do exactly as they choose. Once in a while we get a man who will keep good records. Much more often we get the other type, who will not keep good records, and there is no way to compel them to do so; at least there is no way so far as we can discover. Now unless we get men who will keep proper records, it will be impossible for the hospitals to have the kind of records Dr. Bottomley refers to.

I have sometimes thought that with a sort of hospital association to keep tabs on the internes who refuse to keep proper records and who say that sooner than keep records such as we want they will throw up their jobs and go elsewhere, we might be able to control them and their travels to a certain extent. There are plenty of hospitals which are looking for internes and need more than they have, and as long as such a condition prevails, unless the hospitals can get together in the matter, there is no control over the internes and consequently no control over the records. Men who are practising medicine for a livelihood do not have time to keep the records of a hospital.

Dr. Bottomley: With all due respect to Dr. Howard, I do not think his criticism touched the main point of the question. Of course, as Dr. Gage says, if a person is in the habit of dumping his moribund cases on the hospital, the hospital records will indicate that fact, and any just, intelligent committee looking over such records will be aware of it. I do not think it affords any argument against the hospital standardization plan.

It is a difficult thing to standardize hospitals; we all know that; but there are many practices and customs existing in hospitals today which I believe can be eradicated only through some simple method of hospital standardization. I agree with Dr. Hough that good record keepers are extremely hard to get. That is partly the fault of the visiting staff, I think. The average visiting staff shows a decided lack of interest in looking over the hospital records, and the interne receives neither instruction, encouragement nor training in taking records. Under the circumstances he is not wholly to blame for the poor records. I have made up my mind that hereafter I will not sign a diploma for any house officer unless his records are reasonably complete and correct.

In time we are going to get better house officers, because medical schools are going to insist on an interne service as part of the work necessary for a degree. Such service will count only when served in such hospitals as have accepted standardization, have lived up to its precepts and are rated as satisfactory. Hospitals which do not accept standardization are going to be rated as hospitals in which interne service will not count in work for a degree. This is going to raise the grade of the house officers and is going to increase their enthusiasm in their work.

The Administration of a Military Base Hospital and Its Comparison with a Civil Hospital.*

By Channing Frothingham, M.D., Camp Devens, Mass.

Lieutenant-Colonel, M. C., N. A.

Medical men throughout the country are especially interested at this time in the work of the Medical Department of the United States Army. This fact offers an excuse perhaps for presenting a paper on the rather dry subject of the administration of an army base hospital. For it is not generally realized what medical problems are met with in these hospitals and how they are handled; and it may be of interest to some to have pointed out a few of the features of administration and to have their attention directed to wherein these features differ from those met in civil hospitals.

Although the Manual for the Medical Department of the U. S. Army outlines the main principles on which these base hospitals should be run, it must be borne in mind that the problems must vary between the base hospital at the front and those in the cantonments in this country. Furthermore, in many instances these hospitals are being administered by officers who have not had a previous training in this work or a knowledge of military methods. Therefore there is bound to be among the different base hospitals certain variation in their methods of administration. This description, therefore, will be limited to the methods of administration of the base hospital at Camp Devens, at which post the author has been stationed for some months. An opportunity was afforded the author to visit the base hospitals in three of the neighboring cantonments, and it was interesting to see how similarly the hospitals were administered in the great majority of matters, although the details of administration had been left by the Surgeon-General to the commanding officers to a great extent.

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It is important for one to grasp what function a cantonment base hospital is supposed to fulfill because it differs somewhat from what the usual civil hospital does. The base hospital must be prepared to care for any type of case which may arise, be it acute or chronic, sane or insane, contagious or non-contagious, traumatic or in need of the advice of expert specialists. It may not confine its attention to some one or several types of cases as civilian hospitals may do. Of course, equipment to care for women and children is not needed and elaborate equipment for the special study of chronic disease is not called for, as these cases are transferred to special hospitals or discharged from the service. It seems needless to add, however, that the Government demands that the very best methods for diagnosis and treatment be employed in the care of its sick and wounded soldiers.

For descriptive purposes the administration of a hospital may be considered under three separate heads: the equipment with which to do the work, the people to do the work, and the money to pay for it.

The equipment of an army hospital, including the buildings, is provided the commanding officer through the Surgeon-General's Office. The hospital is constructed by the Quartermaster Department of the Army upon plans drawn up in the Surgeon-General's Office. The commanding officer of the hospital may or may not be consulted in the formation of these plans. The Quartermaster Department also provides for necessary repairs, etc., in the buildings. The commanding officer should see that attention is called to needed repairs. The commanding officer should requisition to the Surgeon-General for any additions to existing buildings or new ones that are desired for the hospital. The responsibility to see that no patient suffers for lack of proper facilities for treatment or diagnosis rests upon the commanding officer to the extent of his having endeavored to secure the needed changes.

The equipment of light, heat, water, hot and cold, and high pressure steam at the base hospital at Camp Devens is supplied by the Quartermaster Department, and all the commanding officer at the hospital has to do is to make sure that any deficiencies in the service are reported to the proper authorities.

The furniture of the hospital, kitchen utensils, clothing for patients and enlisted men of the Medical Department, medical supplies and other equipment which is used in running the hospital and caring for the sick, come from three sources, namely, the medical supplies, the quartermaster supplies and the ordnance supplies. The War Department, through its subdivisions, decides how much of the various articles a hospital of certain size may have, and the commanding officer of the hospital must see that the necessary things are requisitioned for in time to be on hand when needed. Occasionally the needs of a hospital call for some special equipment, in which case the commanding officer should endeavor to obtain it by special requisition.

It becomes evident from this short description of the method of obtaining equipment that in the Army the hospital administrator requisitions for things which someone else has bought or planned for, and does not have to take up the cost of the articles, etc., in securing his equipment. This part of the work is done by other officers in the department. In civil hospitals the superintendent includes the purchase of articles and the decision as to which are best suited for the hospital in his duties.

The people who do the work in a base hospital may be divided into three main groups, officers, nurses and enlisted men. Occasionally a few civilian employees are permitted, but they may be grouped for simplicity as enlisted men. The main problem of the administrative officer or commanding officer, as he is called, is to see that the people of his command do their work properly, in accordance with the rules laid down by the War Department, the Surgeon-General's Office and his immediate commander. To accomplish this the commanding officer is made the ranking officer of the organization and responsible for what goes on in the command, professional and otherwise. It is his duty, therefore, so to organize his command that each officer, nurse and enlisted man has been well instructed and understands his or her duties, and that these duties are clearly defined. He must follow the work of the various officers in order to see that their work is properly done and that the medical officers' professional knowledge is adequate. He should also so organize his staff that he may receive from them ideas in regard, not only to running their own part of the hospital, but also the whole hospital. Careful inspections should be made at frequent intervals.

Although the distribution of the work between the officers varies somewhat in different base hospitals, it is sufficiently similar to warrant going over in some detail the work of the various officers so that the medical profession may form a fairly accurate idea of what their fellow doctors are doing in this one part of the service.

The officers stationed at a base hospital may be divided into two groups,—those with professional training in medicine and dentistry and those without. Formerly all officers in the Medical Department had a professional degree, but the Sanitary Corps of the Medical Department has now been formed in which the officers need not have a professional degree. As many of the positions held by officers in a base hospital do not call for a knowledge of medicine, this is a great help in saving medical men for medical work.

The positions on the staff of a base hospital which do not require a professional man to fill them will first be considered. The adjutant is practically the commanding officer's private secretary, and takes charge of as much routine work connected with the administration as possible. Another officer, called the registrar, has charge of the preparation of all the routine reports in regard to patients, which are forwarded to the Surgeon-General. These reports are important in regard to awarding pensions and the like, but the preparation of them does not require medical knowledge. He also keeps the clinical records of the hospital in proper condition. One officer has charge of the enlisted men of the Medical Department who are assigned to the base hospital for duty. The detachment for a hospital of 1200 beds includes 450 men. The detachment commander must see that these men are clothed, housed and fed properly. He must also arrange their schedule of hours and see that they receive a sufficient amount of instruction in nursing and military drill, etc. The problem of feeding the patients and enlisted men assigned to the hospital is placed in the hands of a mess officer. For this purpose the hospital receives from the Government so much money for each patient per day and so much for each enlisted man assigned for duty. With this money the mess officer buys food from the commissary or other sources, and prepares a regular diet for the men and several diets for the patients. In this latter work he is assisted by a professional dietitian. In addition to the money from the Government, he receives money occasionally from other sources, such as the hospital store, hospital garden, barber shop, etc., which allows him to enlarge upon the variety of the diet.

Mention has been made above of the Quartermaster Department of the Army. An officer of this department is assigned for duty under the commanding officer of the base hospital. He cares for the condition of the grounds and buildings, keeps the transportation in a proper degree of efficiency, and arranges for the supply of such quartermaster property as is needed and authorized. The clothing of the enlisted men, their beds, etc., and certain of the kitchen utensils furnish the greatest amount of quartermaster property used at the hospital outside of that used in keeping the buildings in condition.

Mention was also made above of Medical Department property and Ordnance Department property. In a base hospital there is very little of the latter and a large amount of the former. In this hospital the officer assigned to look after the medical property also keeps the records of the ordnance. This officer puts in the requisitions for and obtains the medical property used for the equipment and running of the hospital. He then distributes it among the officers of the hospital, from whom he receives a receipt for that property over which they have supervision. This officer must have some idea of the amounts of different articles allowed by the Government in order to guide the officers in their requisitions for and use of medical property.

The chaplain is an important officer in a base hospital, for, in addition to giving spiritual comfort to the patients, he may be a tremendous factor for good among the enlisted men of the detachment. He will organize them for social and athletic purposes, arrange classes for instruction and act as guardian and advisor for them, in addition to such religious exercises as he may conduct.

One position, that of officer of the day, might be mentioned at this point. The position is held for only 24 hours and the incumbent changes daily, being appointed from among all junior officers of the command in turn. The officer of the day acts as a representative of the commanding officer, and is expected to be aware of all the activities of the hospital and see that they are going on properly during his tour of duty. All extraordinary circumstances should be reported to him and he should take charge of any situation which might arise until the commanding officer or his representative appears. The officer of the day has charge of the guard.

Turning now to the officers who need for their duties a professional training in medicine or dentistry, we meet that part of the staff which corresponds to the clinical staff in our civilian hospitals. This part of the staff is divided for administrative purposes into three groups,—the medical service, the surgical service, and the laboratory service. Over each one of these services is a chief, who, with the others and the commanding officer, form the executive committee of the hospital. The chiefs of these services are designated by the Surgeon-General and are not of necessity the senior men in military rank, but are chosen for their professional or executive ability. The medical service comprises the general medical service, the neuro-psychiatric service and the skin and syphilis service. Each one of these services has a chief. It is customary to have the chief of the general medical service act as chief of the whole medical service, and such is the case at this camp. The surgical service comprises the general surgical service, the oto-laryngological, the ophthalmological, the orthopedic, the genito-urinary, the x-ray, and the dental services. For each of these services there is also a chief. The chief of the whole surgical service is at this hospital also the chief of the general surgical service, but he may be the chief of any of the subdivisions of the surgical service, and I understand is in other cantonments.

The laboratory service undertakes all the clinical pathology of the hospital and such other laboratory work as it may be called upon to do in general bacteriology, pathology or chemistry. The concentration of the work in clinical pathology is apparently quite at variance with the custom in civil hospitals in recent years, where attempts have been made to multiply the number of laboratories and place them readily accessible to the wards. The small number of men, however, capable of doing expert clinical pathological work in a base hospital, makes it more desirable to have one central plant. The amount of this work done, however, should not diminish on account of the single laboratory, as all that it is necessary for an officer to do in order to have any test done, is to sign a slip of paper and send it to the laboratory. Actual experience at Camp Devens seems to show that the cases are very completely worked up from a clinical pathological point of view.

The position of chief of service is to a certain extent executive in that he must arrange for the diagnosis, care and treatment of the cases assigned to his service. He acts as a consulting physician to those officers under him in more intimate contact with the patients. If the service is large enough to warrant it, one or more assistants to the chief may be appointed.

The actual care of the patient falls upon the officer designated as a ward surgeon. This officer has one or more wards of thirty-two beds under his charge. This officer takes the history of the case, makes the physical examination, orders the clinical pathology done and outlines the treatment. This officer also is responsible for the work of the nurses and enlisted men on his ward, for its proper appearance and for the care of the property loaned to it by the Government. If the supply of officers is sufficient an assistant to the ward surgeon is appointed. This is necessary on some of the wards in which many serious or acutely ill patients are present.

The need is felt in this base hospital for recent graduates in medicine who could act as assistant ward surgeons or ward surgeons and do the work which corresponds to that of a house officer in civilian hospitals. It would be well if some arrangement might be made whereby graduates in medicine should take their hospital work in an army base hospital. It is realized, of course, that the civilian hospitals must not be stripped too bare of doctors to do this work.

Before turning from the officers to the nurses, mention should be made of the receiving officer, the sanitary officer and the convalescent officer. These three positions require medical knowledge but have not been grouped definitely with any one of the clinical services. One officer is designated as the officer in charge of the reception and discharge of patients. He has several assistants, and is responsible for the admission of patients throughout the twenty-four hours, and must have someone on duty all the time. The problem of admission of patients in a base hospital differs somewhat from that in civil life in that suddenly a large number of cases, up to several hundred, may arrive for admission at the same moment.

The sanitary officer, as the name implies, is a medical officer whose duty it is to inspect the hospital and surroundings, to report on sanitary conditions, and make suggestions for their improvement.

The convalescent officer is the name applied to that officer who has charge of the convalescent patients from all the various services who are advanced enough in their convalescence to begin moderate work. As the patients must stay in the hospital until they are able to return to full duty, they stay a longer time than is the custom in civil hospitals. During the latter part of their convalescence they are able and should indulge in exercise and training so that they may gradually work up to full duty. One officer is put in charge of these cases and outlines their work according to the patient's ability. He has as many assistants as the number of patients demands.

The nursing at a base hospital is carried out by female trained nurses and ward masters. The nurses are all graduate nurses and are under the supervision of a chief nurse, to whom is left the assignment of the nurses for their work. The chief nurse is provided with clerical assistance by the Government and the Government also provides the nurses with certain civilian employees to help in their kitchen and care of quarters. The lack of student nurses is felt by one who is used to working in a hospital with a training school for female nurses. It is understood that the War Department is planning a training school in some of these base hospitals.

The enlisted men of the Medical Department who are assigned to the hospital detachment, and a few enlisted men of the Quartermaster Department, make up the force by which the work of the hospital is done. These men are organized with non-commissioned officers in charge of them and assigned to various jobs. In so far as possible, a man is assigned to work for which he has had some training, but of course, this is not always possible, and men have to be trained for their new positions. Occasionally a civilian may be employed as a cook or for some special work, but only in very rare cases.

Before leaving the description of the various persons who do the work at a base hospital, one point of marked difference between an army hospital and a civilian hospital should be emphasized, and that is that neither officers nor men are in a position to quit their work if they do not like it. In this way the commanding officer is not embarrassed by having to take into consideration the whims of the employees in running the hospital.

In taking up the third feature in the administration of an army base hospital, namely, the money to pay for the running of the hospital, one finds conditions quite different from the civilian hospitals. No money passes through the hands of the commanding officer except the money allowed to buy food for the patients, nurses and enlisted men. The Surgeon-General arranges so much of supplies for equipment and running of the hospital and so many men to do it, and the commanding officer distributes and uses these factors, but does not have money with which to buy supplies or hire men. If more men or supplies or buildings are needed they are requisitioned for, or special permission is asked to spend a certain amount of money for some certain thing. Even in the latter case the bill is paid by the Government after proper authority is granted.

Certain special features in regard to an army base hospital, although not strictly administrative, should be mentioned in a description of this sort.

The fact that the officers are on duty the whole time offers an exceptional opportunity to concentrate upon a given case a remarkable amount of professional ability, including various specialists, at a moment's notice. On this account errors of omission to exhaust all possibilities in diagnosis and treatment are considered much more serious than errors due to mistakes in professional judgment.

The opportunity to insist upon autopsies in every case that dies is, of course, exceptional. Unfortunately, the War Department has not availed itself of this chance. Although deprived of this opportunity to advance the knowledge of the officers and medical science, the opportunity to study cases until they are completed does exist. For, as the patients are subject to military control, they can be returned to the physician until treatment has been satisfactorily completed. This is of special interest for the venereal cases.

The records of an army hospital and the continued presence of the patients under military control offer a splendid opportunity for the development of a follow-up system. From such a system a considerable mass of material of medical value should accumulate, and it is to be hoped that special medical officers be assigned for this important work.

In each hospital there is a small store which sells a variety of articles such as food, toilet articles, some clothing, stationery, etc. This store, called the Post Exchange, is managed by one officer in addition to his other duties. The proceeds of the store are used for the benefit of the enlisted men and the patients.

The American Library Association has sent to this hospital a librarian, who is on duty throughout the day. She has organized the distribution of books to the patients throughout the wards and arranged, with the aid of equipment furnished by the Association, an attractive reading room for officers, nurses, enlisted men and patients. Another building which was on the grounds has been turned into a club house and library for the use of the officers, thanks to the generosity of the wife of one of the officers.

It would not be proper to close a report on the administration of a base hospital without calling attention to the excellent work that is done by the Y.M.C.A. and the Red Cross in regard to aiding in the comforts and pleasures of the enlisted men and the patients at the base hospital at Camp Devens. Both organizations have erected buildings for the soldiers. In one, the Y.M.C.A. building, is the center of social activity for the detachment, and in the other, the Red Cross building, there is the recreation room for convalescent patients. In addition, the Red Cross is extremely helpful in supplying quickly things, which green officers, due to their inexperience, could procure only from the Government after considerable delay.

DISCUSSION.

DR. R. B. GREENOUGH, Lieut.-Commander, U.S.N.R.F., Boston: I think the members here may be interested to know something of the administration of a naval hospital, that they may judge how far it differs from that of an army hospital, such as has been described by Colonel Frothingham.

The general organization is very much the same, the administrative officer in a naval hospital being called the executive surgeon, and corresponding closely to the adjutant in an army hospital.

Before the war, at the naval hospital in Chelsea there were generally four surgeons on duty besides the commanding officer. We now have about twenty. Each department has a chief of service and as many ward officers and junior assistants as are needed. In that connection the Navy has done something for which it has, perhaps, been criticized, but which I consider very wise. It was decided to forego the year's hospital service formerly considered advisable before a surgeon was admitted to the service, and a condition still required before entrance to the Medical Reserve Corps of the Army. We have taken the 1917 and 1918 graduates directly into the service and put them on duty as house-officers in the naval hospital, and have worked with them, and instructed them in the matters we considered to be of most importance. Last year we had an assignment of thirty-seven junior medical officers at the naval hospital in Chelsea, and many of them have been working purely as house officers for over a year. These 1917 men are now being sent out on sea-duty and are better equipped to do our work than if they had come to us after a year in a civil hospital. There is no question but that a very considerable period of time must be spent by the civil surgeon or physician in learning the military side of his profession before he can make himself useful in the Army or Navy. He has got to have a thorough knowledge of the military end of the work or he is greatly hampered in his own activities.

The general administrative end of the hospital work is carried on almost completely by commissioned and non-commissioned officers, under the executive surgeon. The ward officers are as free from anything having to do with the providing of food or equipment as they would be in a civil hospital.

It would be quite wrong, I think, to fail to speak before such a gathering as this, of the impression that the hospital corps of the Navy has made upon me. I won't attempt to say what the condition of the enlisted men in the Army medical corps may be, but in the Navy the men are taken almost always from civilian occupations in which they had to do in some way with medicine. Some have had hospital training; others have been pharmacists or have worked as helpers in drug stores, or have been connected with medical work in some way. I want to say that I know of no group of men who have so impressed me with their earnestness and ambition to improve themselves. It is a great training school at the hospital in Chelsea. Not only are the men given formal and informal clinical instruction in the wards; they are working all the time and looking forward to the next opportunity of getting an increase in rank, and the rapidity with which some of the men who have enlisted in the lower ratings in the hospital corps have advanced to higher and responsible ratings is astonishing. I know of few places where merit is more promptly recognized than in that corps.

There is a regular nurses' corps in the Navy, but since the expansion in the personnel it has been necessary to call upon the Red Cross, and we now have many Red Cross Navy nurses also. In our forty bed wards we have at least two female nurses in the daytime, and usually two of those wards are carried by one nurse at night, irrespective of such special nursing as may be required.

The main work of the hospital, however, is done by the men of the hospital corps, about four or six to a ward.

One point to which Dr. Frothingham has alluded as a very important feature of the work of military hospitals, and one that does not exist in civil hospitals, is that the patients must be kept in a military hospital until they are ready to go back to active duty. If the period of convalescence is brief the patient is given a light detail of work about the hospital, such as helping in ward work, sweeping and polishing floors, orderly service, and work out doors about the grounds. Such patients are also given shore liberty after 4 p.m., when such privilege is warranted. A considerable portion of the constant cleaning and polishing of the hospital is performed by patients of this class, and the plan serves to give them exercise and occupation as well as to get the work done.

On the other hand, where the convalescent period is longer, leave to go to home or friends can be procured. For instance, a man comes in and is operated upon for hernia. It is obvious that, although at the end of two weeks he may be up and about and able to walk freely, the man is not fit to go back on duty until at least six weeks have elapsed from the time of the operation. If he lives near the hospital he can be given sick leave and allowed to go home. On the other hand, men living at a great distance may be quite unable to go to their homes for the relatively brief period of their leave, and they would have to stay in the hospital and wait until they were fit for duty, if it were not for the fact that a number of men and women outside of Boston have been most generous in offering the hospitality of their homes to boys under the conditions I have just described. This is a very great advantage to the boys and to the hospital. I am glad to say that we now have plenty of places to which we can send such cases as can avail themselves of this privilege, and I do not want this to be taken as a hint to procure additional places. But I do wish to acknowledge the great assistance which has been given to us by public-spirited people in this community.

DR. GAGE: I would like to emphasize one point in Dr. Frothingham's paper because it has to do with hospital standardization and the keeping of records. Every consultation held in an army hospital has to be recorded, so that if in any case anything does not come out right and an investigation is made, unless the record shows that these consultations were held and that the proper attempt was made to do everything that was necessary in that particular case, if the surgeon did not use every means available to help that case, he must suffer the consequences. An error in judgment is not, however, held up against the surgeon, as Dr. Frothingham said. But it is right there in the record—if these necessary consultations were not held the record shows it. Every time that one of the chiefs of staffs is asked to consult he has to write the report out and it is incorporated as a part of the record, and, further, after that case is ready for discharge he has to go over the whole history and o.k. it. He is made absolutely responsible for every bit of that record and on it he has to stand. That ought to be just as applicable to civil as to military hospitals.

THE NEED OF SYSTEMATIC TEACHING OF HOSPITAL INTERNES.

BY EDWARD H. BRADFORD, M.D., BOSTON.

THE importance to a community of a well-organized hospital is generally recognized. Its value depends upon the amount and the quality of the service rendered. The hospital in its establishment takes upon itself an obligation which it should constantly strive to fulfill.

All hospitals are debtors to those who support or found them. Those entrusted with the management and direction of these institutions do not fulfill the trust undertaken if they remain contented with simply a well-ordered institution, caring for the comfort of the patients committed to their care.

Faulty organization, inefficient supervision, incompetent direction, divided or misplaced authority, lead to waste of energy, no less blameworthy, though less apparent, than waste in expenditure or increasing annual deficit.

An expert in the management of corporations can readily recognize defects in railroads or industrial organizations not observable by the passenger or the purchaser of the product. In the same way, the average man of affairs, though familiar with industrial enterprises if entrusted with the responsibility of a hospital directorship, finds himself uninformed as to the special problems of hospital oversight. Nor does the doctor, trained in the observation of disease, and the care of patients, receive the education in the efficient management of a complex industrial organization with coöperation through differing departments. The hospital superintendent, trained though he may be by experience in the careful conduct of his institution, is held close to the work of efficient and economical direction, and rarely appreciates fully the importance of the hospital as an educational center. Discipline and clean bed linen task his abilities and demand for excellence in a large hospital the greater part of his time. Like Martha of the Scripture, he is busied with many things.

In the comfortable time of peace, when prosperity fostered acceptance of the existing order of things, the need of reforms is less easily made evident than when the stress of events demands an economy of every effort.

The duty upon the hospital as an educational center, though often referred to in appeals for contributions, has rarely been fully accepted by hospital authorities. They have contented themselves usually by leaving such matters to the medical staff, or attaching themselves (by affiliation or association) to a neighboring medical school without carefully considering the subject. In some cases they dodge the issue, contenting themselves with their excellence in the care of the present sick, without a regard for the good of the sick of the future or of those outside their jurisdiction.

In order that the importance of this aspect of hospital work may be understood, it may be well to call to mind the development of hospitals in the last fifty years, in community life.

Formerly the hospital, the hospice, limited its work to the care of the unfortunate, the discards of society which a charitable sentiment desired to aid. This relic of the traditions of feudalism fortunately still remains, but it is crowded out in these days of efficiency, by the matter-of-fact idea that health is a business asset to a community. Doctors are needed as are production engineers. Sickness, like the slum, like ignorance and idleness, is a drag on progress. The practical business of curing the sick and preventing disease must be speeded up in every up-to-date community—Health and sanitation pay.

Formerly medical schools did the teaching of doctors. Research was done in laboratories by the zealous searchers after truth, and experience tested the value of investigation. Benefit followed.

But this system is manifestly inadequate to meet the pressing needs of the time. Many of our medical schools even are poorly equipped to instruct in the actual observation of disease, and laboratory research workers in the advance line of science are rarely equipped to inform as to the relief of the aches of patients suffering from atypical and unclassifiable ailments, trivial scientifically, but disabling to the individual. Many hospitals do not think of teaching young doctors; they simply work them as unpaid help.

In the early days, when medical apprentices rode with their preceptors, aiding masters of the art, they were trained in the practical application of accepted measures of relief. The pupil became handy with the tools of the art, and in the excellent school of graded and gradually increasing responsibility, he became in time a master craftsman.

But today, it is evident that the student, though instructed fully in all the branches of use as foundation for medical work not having received the training from responsible charge, needs further experience. He must not, however, be allowed to learn from his own mistakes of inexperience in treating the sick. He requires careful supervision in his work.

A student who has never fully realized that a mistaken diagnosis or an error in treatment may threaten himself personally with professional ruin, discredit or disgrace, is not adequately prepared for the practice of his profession. Responsibility is the best of teachers.

It is for this reason that the hospital year is demanded by the Army and Navy, by the registration boards of many states, as requisite for a license to practice or for commission in the Army Medical Corps.

It is a required minimum of apprenticeship, and a recognized necessity in medical training. The would-be swimmer has not learned to swim, if taught only on dry land. The workman needs to know more than a knowledge of what can be done with tools.

This important development in the training of the young physician brings with it added responsibilities,—to the medical school, the hospital, the medical profession, as well as to boards of medical registration.

The medical schools should educate with the purpose of fitting graduates for efficiency in hospital service. Excellence in this will gain for their graduates preferred chances in hospital appointments. The schools should provide opportunities as far as possible for hospital services for all who are competent to graduate. This, though an easy task for the abler students, is more difficult for the men of moderate or lesser ability—though of earnest and trustworthy capabilities. This work, necessary for every medical school, is as important as any of its educational functions. It can, however, be done only through the close coöperation of hospital and school.

The question of providing the best possible training for the interne is a most difficult one, for several reasons. The interne has passed the age of pupillage, and spoon-fed knowledge is injurious. He should have cut his medical eye teeth, and needs the tougher pabulum of experience, rather than the more assimilable diet of the words of the master.

But experience involving responsibility in dealing with the sick should not be permitted beyond the range of adequately trained ability of judgment. This involves the supervision of the hospital administration as well as of the chiefs of medical or surgical authority. The difficulty of divided authority results. The hospital superintendent must see that the rules of the hospital, protecting the rights of the patients, are observed. The chief of service will see that his directions for treatment are carefully obeyed. His orders cannot be blocked, changed, or exceeded. In the stress of an excess of work, the duty of systematic educational guidance of the interne is usually overlooked.

Many chiefs of service take pride in developing their internes, but many, in fact most, are untrained in the art of teaching, or are busied in the details of work. If investigators, they are usually interested in more advanced researches, than are suitable for the beginner in the art of practice.

The surgeon zealously studying the question of the best method of approach in the operative cure of trifacial neuralgia is a poor guide for the young man who needs experience in the simpler but important questions of the careful dietary of the fatigued or the underfed.

The interne, left to his own resources, learns something, but the community does not gain the amount of advantage at the end of the interne's year, of as well trained a hospital graduate as it needs, or as the wealth of experience contained in a well directed hospital could furnish to assiduous and well prepared young medical men. Frankly stated, the interne gains only a smattering of the knowledge of experience, comparable to the imperfect and inadequate medical theoretical knowledge formerly given in the despised proprietary schools.

Manifestly a needed reform today is in the regulation of the hospital education of the interne. This can be obtained, owing to the divided responsibilities of the interne, only by the combined effort of a hospital authority and medical educators.

The medical school limiting the size of its class and arranging with a closely associated hospital directed by school professors, can provide for the instruction of its annual output of medical graduates. It can require adequate standards for hospital service.

But highly endowed medical schools, in duty to the trust of their endowments, are hardly justified in limiting their output to a point below the needs of the community or their benefactors, and no one properly conducted hospital, if of civic character, can annually change its personnel to the extent of employing from 100 to 200 graduates of varying ability.

If the graduating class is large and varying in numbers each year, it is difficult for a medical school to arrange with a group of associated hospitals standardized service offering equal quality of educational opportunities. The internes will not receive the same training in different hospitals. This is an injustice to many excellent students not fortunate in the chance of hospital appointments. If the medical school requires, before giving its final degree, an examination after the hospital year, the inequalities of hospital service will create a hardship. If an examination is not required, the requisite academic standards of the school degree are impaired.

The coöperation of hospital authorities is manifestly necessary in every movement for the better training of internes. Various plans suggest themselves for providing for this, but the problem necessarily varies with the character and capabilities of the hospitals, as well as their location and their relation to medical schools, and the excellence of those schools.

Of great advantage would be a carefully arranged statement of the opportunities of experience needed in a standard hospital and of the character of the work demanded; an interne's manual, prepared by educationally competent hospital chiefs of service, in coöperation with an experienced hospital superintendent.

Arrangements should also be made for regularly conducted and well directed conferences of the internes with the chiefs of service and hospital superintendents.

There is an unquestioned need of a standardization of hospitals, and a classification according to the varying opportunities of their services. This can be conducted by a committee representing medical schools, licensing boards, or by a medical association.

The remarkable achievement of the American Medical Association in improving the standard of medical education, the recent investigation undertaken by the American College of Surgeons, exemplify what can be accomplished by systematic efforts wisely undertaken and earnestly carried out.

It would, perhaps, in the present stress of war times, when hospitals are struggling to meet with inadequate force the increasing demands which come upon them, be unwise and unjust to take any steps towards improving existing conditions.

Such an opinion, however, should not prevail, for the very reason of the existence of the war, with its demand for every effort to promote economy of energy, and complete utilization of every opportunity.

Trial reveals weakness and need forces thrift. These are the advantages of adversity which the wise utilize.

SUMMARY.

The government needs well qualified young physicians and demands a year of hospital service. This secures to the hospital a certain supply of young medical officers.

In return, the hospital should arrange that residents receive systematic instruction during their year of service. To provide for this the following requisites must be secured:—

1st.—Systematic instruction from the hospital authorities and staffs.

2nd.—Authorized conferences on hospital cases.

3rd.—Condensed and systematic case records.

4th.—An arrangement of hours of work permitting time for study.

5th.—A coöperation on the part of hospital authorities with medical educators, and supervision by state licensing boards of medical education to secure proper hospital standardization.

The demands of the community for properly trained medical practitioners require practical hospital training in addition to adequate medical school instruction. This throws upon hospitals an added responsibility; that is, the maximum of hospital educational opportunity.

DISCUSSION.

DR. GAGE: This subject is one which is coming up in connection with hospital standardization and the present position of the interne is a good deal like that of the pupil nurse in the training school who is sent outside to earn money for the hospital. That is, the interne is used for the benefit of the hospital without getting a nearly adequate return. I think we have all experienced the difficulty in getting internes—I certainly know I have for the last few years. I think the position of the interne might very profitably be made a little higher than it now is and that a good deal of the drudgery which he now does could be put upon permanent clinical clerks. The routine work could easily be done by such personnel and in that way the interne could be freed from a great deal of the work that is uninteresting and unimportant. In that way, too, he could have more time for the really important sides of his work. For instance, he might be taught the art of history taking, so that he could do that well. The average practising physician has not always a good idea of how to write up a history. The interne can learn how and is much more ready to learn than the older man, who considers it entirely unnecessary. I think that this subject is one of great importance and worthy of the consideration ot the Society.

SOCIAL SERVICE AND FOLLOW-UP WORK.

BY RICHARD M. SMITH, M.D., BOSTON.

THE activities of the modern hospital are manifold and are constantly changing and enlarging. It is no longer considered that the hospital has done its entire duty to the patient in attempting to make a diagnosis or in writing a prescription or in performing an operation. The purpose of the hospital is to diagnose and cure the malady with which the patient is afflicted. If we limit our interest entirely to the patient as he presents himself in the hospital, we find that frequently we are unable to make a satisfactory diagnosis. If, however, we are successful in this first part of the work and an operation is advised or a line of treatment suggested we discover that the benefit we sought to accomplish often does not follow. But if it happens that we are successful even thus far and relief is obtained, the complaint may recur, and the patient presents himself again for treatment. Therefore, purely from the professional point of view, we have failed at one or another stage of diagnosis or treatment. From the economic point of view, the hospital money has been wasted. From the point of view of the patient, he is where he was before he went to the hospital, and in many instances worse than he was before his first visit. He is discouraged because of the return of his trouble and because of the financial loss involved in the first treatment.

We realize now that the diagnosis and cure of diseased persons demand that the hospital extend its activities beyond its four walls. It must consider the causes of disease and study the means of removing these causes or of making them inoperative for that particular individual. The hospital must then, if it is to accomplish the thing for which it was founded, become interested in the prevention of disease. As soon as interest is aroused in this matter—and few fail to appreciate its importance—we discover that again it cannot limit itself to a study of bacteria or of chemical variations or yet of cell metabolism. These are extremely important matters and must be thoroughly investigated with reference to each patient, but they do not encompass the whole problem of disease. The individual cannot be detached entirely from his surroundings.

The environment in which he lives and in which disease has developed must be considered also, in many instances, if an accurate diagnosis is to be made. This social background must be studied and modified if a permanent cure is to be effected.

The facts in regard to the living or working conditions of the hospital patients, the social service worker furnishes to the physician or surgeon. In the majority of instances it is impossible for the doctor to make proper investigations of this sort for himself. In private practice these facts either are obtained by the doctor or, in many instances, are already known to him because of long acquaintance with the family. Environment is quite as important here as in the hospital. Most physicians find themselves floundering in the slough of despair many times a day in attempting to adjust the difficulty in home or business which is recognized clearly as a controlling factor in the patient's proper treatment. And what physician has not had a difficult diagnosis suddenly made clear by a new bit of information about the patient's life or habits? In the hospital, the patients come without anything being known about them other than the fact that an individual is present with a certain number of complaints. The picture is impersonal. The background must be painted. For a complete understanding of the situation and finding the proper solution not only is it necessary to consider the pathological condition present but it is essential also to recognize the influences which have been at work in the individual's life and which are to continue to operate after he leaves the hospital. The methods by which the unfavorable facts in his environment are to be modified or eliminated, as well as the discovery of these facts, is the part of the cure contributed by the social service worker.

The advantage of thus socializing or humanizing hospital practice is not confined to the doctor. It has its effects also upon the patient. The patient is made to feel by the kindly interest of the social service worker that the hospital is more than an institution and the doctor more than a part of a feelingless machine. Many times the consent for an operation or the willingness to follow advice is dependent solely upon the confidence in the word of the social service worker.

It is of interest to record that the expansion of our military and naval hospitals due to the present war has brought to these institutions the realization of the need of social service workers. The Naval Hospital at Chelsea has already established a trained social worker, and others are adopting the same practice.

It will be seen from this statement of hospital social service that the work must be done in the closest coöperation with the physician. If the social service worker makes her investigation of the patient's social history independent of its medical connection, she will not obtain the facts the physician desires for an accurate diagnosis, or if she tries to modify his after-hospital life without careful directions from the physician in charge, she will not accomplish the things which are essential for his recovery. The social service worker is really another set of eyes, ears and hands to carry out the work of the physician in making a diagnosis and accomplishing a cure of the individual patient.

The success of social service work depends upon careful medical work, since the plan for the patient must be adopted in accordance with the true state of the patient's condition. Not infrequently the social service worker is insistent upon a detailed statement by the doctor when such a statement is difficult to make. This is an uncomfortable situation but is of advantage to the doctor and to the patient. The social service worker may be of distinct assistance in requiring the doctor to be specific in his diagnosis and definite in his directions for treatment.

A hospital may deliberately omit to install an expensive piece of apparatus, such as an x-ray machine or hydrotherapeutic outfit because of the financial obligation, and yet may give to many patients a perfect diagnosis and adequate treatment. For the number of cases requiring x-ray examinations or hydrotherapeutic treatment compared with the total number of patients in a hospital is relatively small. A hospital may limit the kind of cases admitted by omitting certain specialties, such as orthopedic diseases and children, and yet do one hundred per cent. perfect work for those patients admitted. I venture to say, however, that the absence of a proper social service department limits the efficiency of diagnosis and treatment in all but a small number of cases admitted to any hospital, *i.e.*, a failure to consider the patient's home, occupation and environment prevents one hundred per cent. perfect work in the majority of cases, even though the kind and number be carefully limited.

It is, of course, inevitable that in the investigation of individual patients the social service worker will become involved in many broad social problems which demand correction in order that the patient and others like him may be spared from the recurrence of the disease with which he is afflicted. This part of the social service worker's job demands from her initiative and constructive thought and action, frequently independent of consultation with the physician. The proper solution of the social problem, however, out of which the medical condition has arisen, demands in many instances medical leadership. In this field also the doctor must be ready to offer assistance and advice.

Social service has come as a part of the hospital equipment in response to a need for help felt by the medical staff. It is making its contribution to the discovery of the causes of disease and to the methods of cure. We can as little do without it as without the use of our eyes and ears in getting the medical history or for the examination of the patient, or our hands in writing a prescription or using a scalpel in effecting a cure.

Another function of the social service department which has been increasingly appreciated is the help which can be given in facilitating the discharge of patients from the wards, especially when they are not able as yet to return to their homes. This is particularly true with patients requiring institutional care, either in chronic hospitals or hospitals for special diseases as tuberculosis. If all the beds in a hospital for acute cases are allowed to be filled with cases of chronic disease, the usefulness of the hospital to the community and to the Staff is materially curtailed, and its output relatively limited because of the small number of patients to whom it can minister. The social service worker is able to see that patients ready for discharge are transferred promptly to their homes or to other institutions or to whatever place the physician may decide is the suitable one for further treatment.

It is also possible through the social service worker to follow up cases after their discharge from the hospital in order that the patient may report again to the hospital for subsequent examinations or perhaps for further treatment, and also to see that the treatment advised at discharge is accurately carried out. A brace for the back which is hung on the wall in the kitchen cannot do much toward correcting a curvature of the spine.

Another important duty of the social service worker is to see that patients given appointments in advance either for admission to the ward or for the out-patient department come at the appointed time. This, so far as the ward is concerned, prevents beds remaining vacant for any period of time waiting for patients to be brought in, and in the out-patient department makes a continuity of treatment possible which is ordinarily not accomplished, if the patient is left to his own resources to report at a given time.

The machinery of this follow-up work may be modified to suit the needs of the various hospitals, but some card system is essential in every case. For its successful operation two things are necessary. First, the careful directions or instructions from the hospital as to what is needed for the patient or that appointments are made; and second, some one who can go to the patient and see that the things are done. The doctor does the first and the social service worker does the second.

There are two points which it seems to me most important to bear in mind in connection with any social service department. In the first place, the work is primarily and essentially to be done with the leadership and coöperation of the medical and surgical staff. The problems involved are medical and social problems. It is necessary for the doctor to follow the work in detail if the best results are to be accomplished. In the second place, it must be recognized that a social service worker requires special training. It is necessary to know how to get essential medical facts out of a social history and how to deal with the social problems in the community which affect the individual patient. The worker must be familiar with the resources of the community available for treatment and must be able to use these resources to advantage. Training as a nurse may be advantageous, but whatever preliminary training the person may have had, the responsibilities of a social service department must be given only to individuals who have had training and experience in this particular field. If these two facts are borne in mind the development of social service in any particular hospital will be saved from many pitfalls which will otherwise surely come.

DISCUSSION.

MR. MICHAEL M. DAVIS, JR., Boston: Dr. Smith has spoken of the contribution of social service to the hospital. I think there is one misconception which sometimes interferes with the development of social work in hospitals and that is its relation to physicians. To my thinking social service in a hospital has primarily a medical function and its essential reason for being in the hospital is to help to achieve medical efficiency in the diagnosis and treatment of disease.

When social workers were first employed it was sometimes thought that the first and most important requisite for this work was a kind heart. As Dr. Smith has pointed out, it is now generally recognized that a good part of the work is such that it requires special training in dealing with people and in getting at the facts, such as occupations, income, and other more personal matters. The social worker must also be trained in knowledge of the way to get things done, what the community resources are for properly placing a patient in a certain kind of institution; how to get a man another job or change his present one for the sake of securing better working conditions.

To get such a worker or workers requires money. Today we have difficulty in getting any kind of trained assistants for any money, but even today I will undertake to state that a hospital without social service is wasting money. I think it will be worth while to take a few minutes to speak of the economic side of the question, namely, the effect on economy of hospital management of having a good social service department. Dr. Smith has spoken of some of the direct medical effects, such as securing proper after-care for patients who need convalescent care, seeing that they are properly placed so that their bed can be freed for another case. That is a job which often requires the assistance of the social worker. If a hospital bed on the average can be emptied for a certain type of case three days sooner than would otherwise be the case, that would make quite a difference financially in the course of a whole year. It might increase the capacity of the hospital by ten to twenty per cent. without any additional beds.

Every physician is familiar with the case that stays on and cannot be gotten rid of. The ward sometimes has to be cleared by main force, but there are dangers to that and the patient sometimes returns. There was one case in a well-known hospital where a woman patient came back a number of times, in fact five times. Between the fourth and the fifth admissions a social service department had been established, and the department at once made an investigation of this case. It seems that there were five children in the family, living on the fourth floor of a tenement, and the mother was doing most of the work. Her diagnosis had been cardiac disease, and the explanation of the woman's recurrent returns to the hospital was pretty obvious. The superintendent studied the matter and figured that these re-admissions over a period of three years had cost the hospital $600, which would have been enough to pay the salary of a social worker for over six months and would have saved the patient quite a good deal, incidentally. That hospital considers that report as rather good evidence that social service pays.

In cases requiring after-care,—the case of chronic ailment,—the patients who need convincing to make them take proper treatment or undergo an operation, the case of the half-sick person requiring periods of care in the hospital or out-patient department, it seems to me that it is well to bear in mind that the function of the social worker is largely a function of finding out the facts. Patients like you and me are usually ready to do something for their own benefit. But sometimes there is a hidden obstacle. Take the case of a woman who was told after a period of observation in the hospital that she needed an operation. She refused to have it, and for a time it was impossible to find out why she would not have it. An investigation by the social worker brought out the fact that her family of children was dependent on her and that the father was a drunkard. Should he go on a spree during her period in the hospital her family would be broken up. She would not take that chance. The solution of the problem lay in careful work with the family to find some means of covering the situation with the aid of a friend or relative or some helper who would give the mother assurance that while she was in the hospital her family would be looked after. I mention this actual case merely as an illustration to show what can be done by social service in getting results.

The practical question of cost is usually dealt with in a hospital about to establish a social service department by appealing to the humanitarian element. A group of people interested in the hospital are asked to help and the appeal is made to them on the basis of helping the poor, of giving the patients a social worker who will render them kindly services. This is well, but I do think that we perhaps underestimate the effectiveness of the strictly business appeal on the basis of a direct contribution to medical efficiency because of the proven value of social service in actually making a given hospital equipment go further, and do more as well as better medical work.

Original Articles.

HEARING TEST TO DETECT MALINGERING.

BY JOHN F. CALLAHAN, M.D., BROCKTON, MASS.

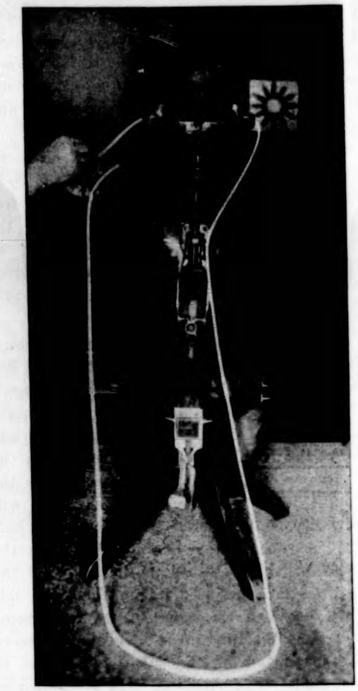
A NUMBER of young men have consulted me since the beginning of the draft for certification of lack of hearing in one ear, the certificate to be used in support of the claim for exemption on the ground of deafness. In many of these cases there was no real loss of hearing, and at times this was very difficult to demonstrate by the routine methods because the registrant would feign deafness so intellingently that the older methods could not be applied satisfactorily. In order to make a just decision in cases where I was not certain of the patient's honest coöperation I evolved the following technic which has proved of great value, and appears to be absolute in its findings.

The test demonstrates not only the presence of hearing in an ear, but also the degree of hearing, and it is a test of hearing by air conduction alone. The usual methods are first employed with ticking watch, voice, and tuning fork, and records made of the results by air and by bone conduction. After this has been done I use my tube test.

It is easily demonstrated that tuning forks vibrating with the same pitch and loudness one inch from each ear are heard in each ear, but that if the fork at left ear is removed to a point three inches from the ear, this sound is lost and only the fork remaining at one inch from the right ear is heard. If now the one at the right ear is removed six inches from the ear, it will no longer be heard; but the left one, formerly not heard, will again become audible. I found that similar results are obtained if the tuning fork was placed against a rubber tubing, the latter transmitting the fork vibrations to the ear. In my first experiments I used the stethoscope, touching the bowl of the instrument with the vibrating fork and cutting off the sounds from one ear or the other by pinching one or the other arm of the tubing with a haemostat. I found that this was not satisfactory because the haemostat did not cut out all sound from the pinched side of the tubing. Also, the diaphragm of the stethoscope is unnecessary. For several months I have used simply about a seven foot length of rubber tubing, hole 3/16, wall of tubing 3/32 inch, to either end of which is attached an aluminum funnel. The use of lugs allows of bone conduction entering the test, as in this technic the vibrations transmitted along the tubing can be felt even by the hand and are easily transmitted through lugs to the bony parts in the region of the ear. The funnels are held to the ears, and about one inch away from them by a simple attachment on the headrest of the examining chair which allows of adjusting them to cover the ears without touching the patient. This is important as we are concerned only with air conduction, and to prevent bone conduction from entering into the test we must be sure that no part of the apparatus comes into contact with the patient's person at any point.

I find that tuning fork 256 C 1 is heard by the normal ear when placed against the 3/16 3/32 inch tubing at any point up to 7½ feet from the ear. With a larger size tubing the same tuning fork is heard as far away as thirty feet from a normal ear. As a routine in this test I use the fork and tube of the first named sizes.

The application and results in an individual with two normal ears are as follows: The seven foot tube is connected with one funnel, the latter being placed about one inch from the right ear. The tuning fork vibrating is applied to the tubing about six inches from the ear and moved along the tube away from the ear until it is no longer heard. This will usually be about seven to seven and one half feet. The tube is now disconnected from the right funnel and attached to the left, and the same procedure followed. If normal, the left ear will also hear the sound of the fork transmitted along the tube up to seven feet or more from the ear. Now the tube is attached to both funnels. The vibrating fork is applied to the tube one foot from the right ear and moved along the tube away from the right ear and toward the left ear. It will be heard only in the right ear until it reaches a point about three to three and one half feet from the right ear, at which point it will be heard also in the left ear and will continue to be heard in both ears for a distance of about four inches in the middle of our seven foot tube. It is this space of about four to six inches in the middle of the tube that I call "the neutral space." The sound in this neutral space almost imperceptibly disappears from one ear to appear in the other, and in this space there is some doubt in the patient's mind in which ear he hears the fork. As we pass through the neutral space, the sound becomes perceptible in the left ear and is not heard in the right. It is to be noted well that whereas the right ear heard the tuning fork up to seven feet in the first part of the test, it now loses the sound of it along the same tubing at about three and one half feet because in this second instance the other end of the tub-



ing goes to the left ear, and as the tuning fork passes from the right half of the tubing through the neutral space to the left half of the tubing, the sound is heard in the left ear alone. The detection of feigning now becomes practicable if it takes the form of misstatements concerning the hearing in one ear.

Illustrative case No. 1. This patient heard whispering voice in good ear at eighteen feet, and in the bad ear at three feet. The tube was connected with the funnel for the good ear; and the tuning fork was heard at 7½ feet. The tube was then connected with the funnels for both ears. Moving the tuning fork along the tube away from the good ear it was heard only in the latter until we reached a point 30 inches from the bad ear and 54 inches from the good ear, where the patient could not tell in which ear he heard the sound. At 26 inches from the bad ear he heard it only in the bad ear, and on moving the fork back again toward the good ear he again was not able to say which ear he heard the sound when the fork was 30 inches from the bad ear and 54 inches from good ear, but two inches farther along the tube —32 inches and 52 inches—he heard it only in the good ear.

In this case the patient really had a marked difference in the hearing of his two ears, as the tests showed plainly. In normal ears the neutral space would be in the middle of the tube, and either side of this space the patient would uniformly tell us that he heard in the ear nearer the tuning fork.

Illustrative test No. 2. Patient said his hearing in left ear was perfect, but that his right ear was totally deaf. With the long "one ear" tube connected for his left ear it was found on several tests that he heard the fork up to seven and one half feet from the ear. With the same tubing connected with the funnel for the right ear he persistently held that he did not hear it even at four inches from the ear. The tube was then connected with both funnels and the tuning fork started at the left-good-ear. He admitted hearing the sound in the left ear until we reached a point 40 inches from the left ear, when he said that he could not hear it. From this point onward up to 4 inches from his right-bad-ear he claimed not to hear the sound. We then placed the tuning fork over the coupling in the tube—this point being 14 inches from his right ear and 70 inches from his left. He said he did not hear it. The coupling was taken apart and the fork again touched to the tube at the same place where he had just said he heard nothing, viz., 70 inches from the left ear on the end that went to the left ear, and he said he heard it in his left ear. He was caught, for if his right ear had been deaf, he would have heard the sound in his left ear at this point and at every other point up to 84 inches from his left ear while the tubing was still connected with both funnels. He reported not hearing the sound to the right of the neutral space because he was determined to give a negative answer whenever he heard the sound in his right ear.

If the eight foot tubing be cut about 14 inches from one end and joined by a simple wooden coupling—a meat skewer cut* to two inches in length and tapered at each end—it will make simpler the determination as to which ear the sound is heard in. For example, if the subject admits hearing the sound about a foot from his bad ear, we can uncouple the tube at the coupling and by touching the fork to one end or the other, find out which ear is hearing it at that point, and by repeating this test see if his answers are uniform. All the tests are done behind the patient who does not know whether two tubes or one are being used, nor does he know which ear is nearer the tuning fork. And all the tests depend on the fact that the patient hears only in the ear in which the sound is louder. We may cut the tube at one or several places connecting it with the wooden coupling as they are about equal to the tubing that I use in the conduction of the vibration.

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* Couplings made of hard rubber tubing are more suitable than meat skewers.

The following modification of the above method has been used recently to determine the degree of hearing in the bad ear. Take two tubes each the length of the hearing in the good ear. Attach to the funnels of either ear. Touch the end of the tube to the good ear with a tuning fork, and at the same time touch the tubing to the bad ear with a similar tuning fork near the head. Now run down the tubing of the bad ear, being careful that the two tuning forks touch the two tubes at precisely the same time. When the sound in the bad ear—as we get away from it—becomes less than that in the good ear, the patient will not hear it at all and will hear the sound in the good ear, and he will, if malingering, then for the first time admit hearing at all. And this point will be the measure of the distance he hears with the bad ear, as we have just passed through the neutral zone at which point he was hearing the same in both ears.

The apparatus. Stiff rubber tubing, 3-16 inch inside and 6-16 inch outside diameter. Tuning forks. Funnels for each ear. Adjustable headrest with a piece of strap iron extending around to the front on either side, and having several holes through which the rubber tubing may pass to the funnels, and allow them to be opposite the ears and about one inch from the head. I always use a tube the length of which is about 6 inches shorter than the distance that he can hear the tuning fork in good ear.

If bone conduction was to be tested all we have to do is to place the funnel in contact with the cranial bones over the ear.

Book Reviews.

Clinical Diagnosis. By JAMES CAMPBELL TODD, Ph.B., M.D. Fourth Edition. Philadelphia and London: W. B. Saunders Company. 1918.

The fourth edition of "Clinical Diagnosis" has been enlarged and the illustrations have been revised and increased. As in previous editions, emphasis has been laid chiefly upon methods and microscopic morphology. The main sources of error in microscopic diagnosis, such as imperfect preparation of material, faulty manipulation of the microscope, and failure to recognize extraneous structures, artefacts, and other misleading appearances, have been given especial attention. Additions have been made in the material dealing with the use of colorimeters and the pocket spectroscope and methods of matching blood for transfusion. New sections have been added, dealing with the new Bass and Johns concentration method for malarial parasites; the fractional method of gastric anlysis, vital staining of blood-corpuscles; resistance of red corpuscles; the mastic reaction in the spinal fluid; the Webber and Aldis method for urobilin as an aid in diagnosis of pernicious anemia; and estimation of amylase in urine and feces in diagnosis of pancreatic disease. The chapter upon sero-diagnostic methods has been revised. The illustrations, including photomicrographs and colored plates, have been carefully supervised by the author and convey a vast amount of important information.

A Manual of Personal Hygiene. Edited by WALTER PYLE, A.M., M.D. Seventh Edition. Philadelphia and London: W. B. Saunders Co. 1917.

The growing demand for "A Manual of Personal Hygiene" has been met by the publication of this seventh edition, revised and enlarged. This book is an exposition of proper living upon a physiologic basis. To develop and maintain physical and mental vigor, knowledge of the normal functions of the body and methods of keeping them in healthy action is necessary. Popular instruction in the prevention of diseases, the rules of domestic and personal hygiene, should be more widely disseminated among communities. Among the subjects considered in this volume are the hygiene of the digestive apparatus, of the skin and its appendages, of the vocal and respiratory apparatus, and of the ear, eye, brain and nervous system. The importance of physical exercise and correct body-posture, the problems of domestic hygiene, food adulteration and deterioration, and infant hygiene are discussed. In the appendix are considered such topics as the pulse, temperature, massage, accidents and emergencies, and poisoning. As far as possible, technical phraseology has been avoided, and many explanatory diagrams and illustrations have been introduced.

Radiography and Radio-Therapeutics. Part II. Radio-Therapeutics. Second Edition. By ROBERT KNOX. New York: The MacMillan Company. 1918.

This volume deals with the treatment of disease by radiation and is divided into three parts: treatment by x-rays, treatment by radium, and the combined use of radium and x-rays. In an introduction, the action of radiations upon tissues and the dangers attendant on the use of x-rays and radium are explained. The first part of the book, dealing with x-ray therapeutics, considers special points in instrumentation, such as methods of protection, the arrangement of apparatus, and the use of filters. The treatment of skin diseases, enlarged lymphatic glands, rodent ulcer, epitheliomata, exophthalmic goiter, uterine fibromata, and diseases of the blood, lungs, and mediastinum is considered. The section dealing with radium therapy describes the physics of radium and the practical application of radium to disease. The book contains fifteen full-page plates and one hundred illustrations in the text. The author believes that treatment by x-rays and radium should not displace the operative in all cases; but, even when this is necessary, radiation is of great value before and after operation. Although the progress in this technic has been marked, it is probable that the treatment of malignant disease by radiation is not nearly so efficient at the present time as we may hope for in the future.

Military Medical Administration. By JOSEPH H. FORD, B.S., A.M., M.D. Philadelphia: P. Blakiston's Son and Company. 1918.

This book, "Military Medical Administration," written by a man who has had personal experience with the war in Europe, is of particular value to the medical officer. It considers some of the administrative methods adopted by subordinate medical officers in their efforts to observe official technicalities. The regulations and orders collected in this volume illustrate the mechanism of administration, the methods of official procedure, and the ends they seek to obtain.

The duties of the medical officer and regimental surgeon, their administrative and professional duties, supervision of supplies and sanitary conditions, and means of enforcing military discipline are considered. The organization and activities of the ambulance company, the field and camp hospital, and sanitary squads and committees are explained. The duties of the division surgeon are indicated. Regulations applying to hospital trains and ships and to base hospitals are given. The duties of the department surgeon and of the officers in Public Health Service and at Medical Supply Depots are explained. The requirements to be observed in the examination of recruits and the methods of dealing with cases of malingering are described.

Clinical Bacteriology and Hematology. By W. D'ESTE EMERY, M.D., B.Sc. Fifth Edition. Philadelphia: P. Blakiston's Son and Company.

This book has been prepared primarily for practitioners, who have had no training in bacteriology and hematology, but who find a need for the application of these two sciences in every-day practice. The present volume, the fifth edition, contains added sections, which carry it beyond its original scope and make it useful as a general laboratory handbook. The method of McIntosh and Fildes for the Wassermann reaction, which the author has found to be a simple and reliable process, has been inserted. Part I deals with bacteriology. The apparatus and processes employed, the preparation and inoculation of culture media, the incubation and method of examining cultures are discussed, and the diagnosis of certain diseases and the collection and examination of morbid materials are considered. Part II is devoted to hematology. Methods of estimating the amount of hemoglobin, red corpuscles, and the number of leucocytes, and a brief outline of the chief practical application of the blood-count are given. Part III, dealing with cyto-diagnosis, considers cyto-diagnosis, cells met with in exudates, pleuritic effusions, peritoneal exudates, and the meninges.

The Diagnostics and Treatment of Tropical Diseases. By E. R. STITT, A.B., Ph.G., M.D. Second Edition. Philadelphia: P. Blakiston's Son and Company. 1917.

The second edition of "The Diagnostics and Treatment of Tropical Diseases" is arranged in the same concise and accessible manner as the first edition. Part 1 deals with tropical diseases, which are considered under the following heads: those due to protozoa, such as malaria and blackwater fever; those due to bacteria, such as the plague, cholera, and leprosy; and those due to filterable viruses, including yellow fever, dengue, and seven-day fever. Diseases due to food deficiency, among which are scurvy, beriberi, pellagra, and sprue, are considered, as well as helminth infections, infectious granulomata of the tropics, and tropical skin diseases. A section is devoted to tropical diseases of disputed nature or minor importance. Under each disease, there is a paragraph dealing with the laboratory diagnosis of the disease considered.

Part II deals with the diagnostics of tropical diseases, and presents the clinical side of tropical diseases from a standpoint of the signs and symptoms of these diseases which are connected with anatomical or clinical groupings, rather than from the side of individual disease. Two new chapters have been added in this edition, one dealing with the special problems attached to diagnosis in the tropics, and the other with the diagnostic value of clinical manifestations from the side of the cutaneous system and organs of the special senses.

Materia Medica for Nurses. By George P. Paul, M.D., C.P.H. Third Edition. Philadelphia and London: W. B. Saunders Company. 1917.

The appearance of the third edition of "Materia Medica for Nurses" gives evidence of its value to the nursing profession. The book is arranged in six parts. Part I consists of general considerations, such as definitions, drug constituents and preparations. Part II deals with general materia medica, therapeutics, and toxicology. Drugs of recognized value are arranged so that their full value may be easily seen. A section is devoted to pretoxic signs. Part III includes a discussion of drugs of minor importance. Part IV describes some newer preparations of definite chemic union. Practical therapeutic procedures are treated in Part V; the value of such agents as hydrotherapy, hypodermic medication, antitoxins, and electrotherapeutics is discussed.

The Treatment of Emergencies. By Hubley R. Owen, M.D. Philadelphia and London: W. B. Saunders Company. 1917.

A comprehensive study of the underlying principles of first aid is offered in this volume, "The Treatment of Emergencies." It has been written primarily for first aid instructors, for police, fire, and ambulance surgeons, for physicians and nurses, and for the laymen who wish to make a study of the subject. It suggests methods to be employed in dealing with fractures, contusions and wounds, hemorrhage, sprains and dislocations, burns and scalds, asphyxiation, drowning, convulsions, unconsciousness, effects produced by lightning, antiseptics, foreign bodies, bandaging, transportation and poisons and their treatment. Many valuable household remedies are also offered. This book offers more than a superficial survey of first-aid treatment; it explains the fundamental principles underlying the treatment of emergencies.

New and Non-official Remedies. Chicago: American Medical Association. 1917.

"New and Non-official Remedies" contains descriptions of the proprietary and unofficial medicaments which the Council on Pharmacy and Chemistry of the American Medical Association deems worthy of recognition by the medical profession. The descriptions of the accepted articles are based partly on investigation made under the direction of the Council and partly on information supplied by the manufacturers. Every physician who desires to further the cause of scientific prescribing, who is anxious to see this country purged of the blight of the nostrum, and who desires to aid in diminishing the domination of commercialism in therapeutics in this country should have a copy of this book for ready reference. "New and Non-official Remedies" will be sent postpaid for $1.00 by the American Medical Association, 535 No. Dearborn Street, Chicago.

Fractures of the Radius. By Lewis Pilcher, A.M., M.D., LL.D. Philadelphia and London: J. B. Lippincott Company, 1917.

This book, dealing with fractures of the lower extremity or base of the radius, embodies the mature conclusions of a surgeon who has been particularly interested in this subject during thirty-six years of practice. The author contributes descriptions of experimental tests which have come under his observation. The book describes the perpendicular wedge-like impact of the carpus against the articular cup of the base of the radius, the splitting of the lower fragment by descent into it of the lower end of the upper fragment, the explosive splitting of the lower fragment of the radius, the backward, outward, or anterior displacement of the lower fragment, epiphyseal separations, arrest of growth of radius, dorsal untorn periosteum, incomplete fractures, fractures of the ulnar styloid process, and others. Suggestions are given concerning methods of diagnosis, the use of x-ray, methods of treatment, special forms of splints, and treatment of fractures already healed in deformity.

Tumors of the Nervus Acousticus and the Syndrome of the Cerebellopontile Angle. By Harvey Cushing M.D. Philadelphia and London: W. B. Saunders Company. 1917.

This volume represents a class of books in medicine of which we have produced here in America all too few, the monograph upon a subject in which the writer has had exceptional experience, supplemented by careful study of the cases and of the literature relating to it. The Johns Hopkins Medical School, and, later, Harvard and a few of our other leading medical schools have done nothing more important for medicine than the making it possible for certain men to have the opportunity and the experience to produce such books.

It will surprise most readers to find that these tumors form 6% of all the cerebral tumors among Dr. Cushing's cases. After a brief historical summary of the subject, the author gives in detail the careful histories and examinations, both clinical and pathological, of his thirty verified cases, and of three additional unverified ones. Then follows an excellent chapter upon the symptomatology of these cases. The author apparently lays considerable stress upon the enlargement of the porus acousticus internus, but he states that the careful study of stereoscopic x-ray plates of both sides is essential, as he himself has "painfully learned," and even then in a certain proportion of cases even experienced men were often unable to demonstrate this sign of an acousticus tumor, and it is also to be noted that an enlargement of the porus may be found with growths in the recess which do not primarily arise from the acousticus. Dr. Cushing lays particular emphasis upon the chronology of the symptoms, especially upon the history of early tinnitus and following deafness. He also regards the Bárány labyrinthine tests as chiefly confirmatory, though in most cases the response to the caloric tests is abolished. The full and careful description of the surgical procedures preferred by the author cannot help but be useful to surgeons who may venture to attack these growths, which are admittedly to be classed among the most difficult to remove by operation of any intracranial growths, yet which are perhaps those giving the most brilliant results after a successful operation.

Diseases of the Nervous System. By Smith Ely Jelliffe, M.D., Ph.D., and William A. White, M.D. New York and Philadelphia: Lea and Febiger. 1915.

The aim of the authors of this new text-book of diseases of the nervous system is a somewhat novel and ambitious one of so presenting and classifying both the organic nervous diseases, the functional neuroses and mental diseases, that their relations may be clear and the unity existing in many of these cases brought out more clearly. It is always easy to pick out flaws in any classification of diseases and point out minor errors. It may be that the writers of this book have attempted the impossible, but one can only applaud the attempt. The division of the subject into vegetative neurology, the sensorimotor, and the psychic has much to be said for it, especially in making more clear to the student the usually much dreaded subject of nervous diseases. The chapter on methods of examination is especially admirable for its completeness, and the brief yet clear description of the various tests. The physician will find the scheme for examination of mental cases especially useful.

The chapter on the endocrinopathies covers a wide field, and while, of course, in a book of this size many topics of interest in these types of disease are touched upon only briefly, this is most often due to our lack of exact knowledge of these troubles, rather than to condensation. Nevertheless, a very satisfactory statement of our present knowledge of this subject is given, and the facts scattered in many books and articles are made readily accessible.

In the chapter on the sensorimotor systems, while occasionally matters are considered rather too briefly, yet in general the treatment of the subject is adequate, and it is a pleasure to see the numerous diagrams and tables, many of them taken from Dejerine's too little known book. The handling of the subject of neural syphilis, both in the discussion of the forms of the disease, and the very sane handling of the much discussed subject of treatment, is most commendable. The balance between conservatism and over-enthusiasm for newer methods being held, on the whole, most justly.

In discussing the treatment of the neuroses, the well-known tendency of the authors towards accepting the teaching of Freud and his followers is shown throughout; but yet if one is not enthusiastic over the use of psychoanalysis as a method of treatment, one must admit that the description of the psychic origin of the neuroses is very striking and illuminating, even if one be unwilling to follow the writers quite as far as they go in accepting some of the teachings of Freud as to "displacements," "substitutions" and "symbolisms." The treatment of the subject of the compulsion neuroses is especially satisfactory, and that of hysteria, the bugbear of neurological writers, rather less so, in the opinion of the reviewer.

The psychoses, as was to be expected, are more than adequately handled, and this chapter forms one of the most admirable parts of the book which, as a whole, must be placed among the best we have, considering the moderate size of the volume.

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126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

ANTIVACCINATION.

IT is stated that when Noah was building his ark in preparation for the predicted flood, a bystander insisted that it would not be much of a shower, but even he probably changed his mind later while climbing a tree or clinging to a projecting rock in the waste of waters. Not so the Antivaccinationists, who remain oblivious to the fact that since 1898 smallpox has, by compulsory vaccination, been eliminated from Cuba, Porto Rico and the Philippines; that in no one of the numerous American camps, at home or abroad, with their 1,500,000 occupants, coming from every section and from all classes, has it successfully attacked the, by compulsion, vaccinated soldier; oblivious also to the fact that in Massachusetts, even with its present imperfect law, smallpox is much less frequently seen than in communities not so carefully looked after; and again oblivious to the fact that smallpox was originally a children's disease and is so no longer simply because of the protection afforded to childhood by vaccination. These Antivaccinationists choose the present time, when we are all busy with activities connected with the world war, to come forward and once again try to tear down the protective barbed wire of the public school compulsory vaccination law, abolish all compulsory vaccination in the State, take care that no one shall be elected to the Legislature who does not hold with their views, and insult the medical profession by stating that a goodly number of physicians are behind them in this propaganda. I ask all physicians to read carefully the following extracts from a letter sent out by the so-called Medical Liberty League, incorporated, and to see to it that candidates for legislative positions understand that to vaccination we are indebted for our present immunity from the scourge of smallpox.

With the present depletion in our ranks, it behooves every home remaining member of the Massachusetts Medical Society to make of himself a volunteer member of the committee auxiliary to the Committee on State and National Legislation, and to be active in furthering good and defeating vicious medical legislation during the coming year. . . .

I feel that I am entitled to ask for earnest coöperation in such work, for surely each man owes this to the Society of which he is a member.

The circular above referred to reads in part as follows:

MEDICAL LIBERTY LEAGUE INC., OBJECT TO ABOLISH COMPULSORY VACCINATION IN MASSACHUSETTS.

Executive Committee.

Masen Paddleford, M.D., President,
Mary Emery, D.O., *Vice-President*,
James F. Ford, *Treasurer*,
Jessica Henderson, *Secretary*,
Richard S. True, M.D.,
R. Kendrick Smith, D.O.,
C. Augustus Norwood.

Dear Mrs. ———

This letter is to interest you in a League just incorporated under the laws of this State to carry on a vigorous campaign to abolish all compulsory vaccination laws in Massachusetts.

The number of sympathizers in this cause is very large. A goodly number of physicians throughout the State are unalterably opposed to these compulsory laws. These physicians are represented on our Executive Board. This cause needs your help. Will you send what financial aid you can? Will you also send a list of names of those you know to be with us?

It would be helpful in our work to have the names and addresses of persons you know who have suffered injury from vaccination. We are anxious to do our work both quickly and thoroughly. To this end we shall make an effort to elect men to our Legislature who believe in medical freedom. In order to do this we must have friends and coöperation.

Please read the enclosed leaflets, from which you will see that we can gain our freedom only by concerted, courageous, persistent effort.

Faithfully yours,
JESSICA HENDERSON, *Secretary*."

The enclosures consist of statements made at a legislative hearing in 1916, when Dr. Paddleford called vaccine virus a quack nostrum, vaccination quackery, and in this State quackery State-enforced, and another gentleman, now deceased, stated that statistics showed that people between the ages of forty and sixty were dying faster than ever before, and that he believed this was related to vaccination.

The amount of time and effort required to combat these misguided individuals each year is prodigious, but our duty to the community forces us to labor on, and not to forget that in 1916 they nearly succeeded in overthrowing all vaccination laws, leaving the community exposed to what we well know would surely come upon it under such circumstances.

SAMUEL B. WOODWARD.

HARVARD IN THE GREAT WAR.[*]

IN the Official Register of Harvard University are described the activities of the Harvard Medical School. The following extracts from the President's report show the spirit in which the school has answered the call for its services:

"The Medical School has naturally been engaged in preparing men for military duties, quite apart from the service of its instructing staff among the troops. At the request of the Surgeon-General, courses in medicine for the Army and Navy have been given at the school, and a course in orthopedic surgery has recently been established to provide special instruction to selected members of the Medical Corps. Upon completion of the course, these last will be assigned to active duty in reconstruction hospitals in France and the United States. The large demand for physicians and surgeons in the war has drawn heavily upon the members of the profession in France and England, and is now drawing upon those in this country. Deeming it important, therefore, to prepare students for active practice as rapidly as possible, the men who had finished the third year were offered the option of continuing their regular instruction at the school and the hospitals throughout the summer, or at the ordinary time. By this process ninety men will have completed the work for their degrees, and become available for the Medical Corps next February instead of the following June."

"Previous annual reports described the Harvard Surgical Unit, which occupies Base Hospital 22 with the British Expeditionary Force in France. This has been continued under the lead of Dr. Hugh Cabot, who, with his colleagues and nurses, agreed to serve there so long as the war shall last. Their surgical work, general and oral, has been invaluable and has given the highest satisfaction to the English Army medical authorities. Meanwhile, in anticipation of a possible war on the part of this country, three other hospital units were organized: one by the Medical School in connection with the Peter Bent Brigham Hospital, under the lead of Dr. Harvey Cushing; another by the Massachusetts General Hospital; and the third by the Boston City Hospital; both of these last being also composed in large part of members of the teaching force of the school. The first two of the three latter units have already gone, one to serve with the British and the second with the American forces in the war.[†] A number of other members of the faculty of medicine are engaged in military work at home or abroad; and it speaks well for the strength of the teaching force at the school that the courses have, nevertheless, been continued unimpaired."

"The Dental School has contributed its quota to these hospitals; and, at the request of the Government, its clinic of one hundred and twenty-five chairs has been used for dental treatment of drafted men, and for those temporarily exempted from draft on account of the condition of their teeth. The Dental School also maintains a couple of chairs at the Naval Radio School in Cambridge, and one at Commonwealth Pier for members of the Naval Reserve."

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[*] Official Register of Harvard University, Vol. xv, No. 6, 1918.

[†] Since this was written, the City Hospital unit has also gone for service abroad.

"In view of the large demand for surgeons and physicians in the war, the students in the Medical and Dental Schools were urged to complete their studies before offering their services to the Government, and in fact they could not be enrolled in the Medical Corps of the Army and Navy until they had obtained their medical degrees. Recognizing the importance of a large supply of such men, the War Department decided that drafted men, who had completed a year in a medical school, should be ordered back to complete their work —a provision which it is hoped may soon be extended to dental schools also; for the value of dentistry, both in fitting for service men with defective teeth, and in treating ghastly facial wounds, has begun to be recognized. In the Medical School there was some falling off in the entering class; but it so happened that the fourth-year class was much smaller in 1916-17 than it is in 1917-18, and hence the total enrollment in the school is actually larger than last year."

The regular work of the various departments has been continued as usual. The report includes a record of various contributions to literature and research offered by the different departments. Scholarships, accessions to the Library, and positions offered by the Appointment Bureau are also mentioned. The total number of students in the school was 363.

The Graduate School of Medicine has given instruction to 620 students during 1916-17. Instruction in military medicine was offered in July, 1916, and in March and April, 1917.

The School of Tropical Medicine made arrangements for special work in kala azar, for the survey of some of the United Fruit Company hospitals and of the Amazon basin. The school has offered courses of instruction in tropical medicine, and has developed a clinic in the subdepartment of tropical medicine at the Massachusetts General Hospital. It has also conducted research work in tropical medicine and allied subjects in general medicine, and has established work at stations in the tropics.

The Dental School had an enrollment of 239 during the past year. A list of courses of instruction, and a record of laboratory work and service to patients is included in this report. During the summer, a special course in dental military surgery was given to graduate men and advanced students.

NECESSITY KNOWS NO LAW.

The rapidly increasing fighting forces of the United States Army, so familiar to every doctor who reads the lay papers, must impress him with the fact that the Medical Reserve Corps must keep a pace in the way of expansion.

With every thousand men in the fighting forces, there must be ten medical officers, so it is a matter of simple calculation to figure the requirements of the Surgeon-General's Office in the number of medical officers that must be at the command of the Surgeon-General when required.

With three million men in the United States Army by the end of August, this means 30,000 doctors, and there are now less than 20,000 on the active list of the Medical Reserve Corps. In addition to the number required for immediate assignment with troops, a large reserve corps should be at the command of the Surgeon-General so that when the necessary number is required they will be at his disposal.

The doctor is the most favored of all professional men in the matter of his assignment. The lawyer, as an example, when drafted or when he voluntarily offers his service and assigned to duty, draws $30.00 a month pay. The lowest pay accorded a medical officer is $2,000.00 a year with additional pay for commutation of quarters for dependants.

It is the belief of the Surgeon-General that a sufficient number of physicians will voluntarily come forward and offer their services as medical officers, and we therefore must do our duty not only to our country, but to those who are so admirably conducting this war in which we are now engaged.

A large and well trained medical corps is absolutely essential as 80% of the casualties are returned to the line through its ministration, and it must now be a matter of history that a sufficient number of medical officers have not volunteered their services to care properly for the mobile forces, attend the wounded and sick in hospitals and to supply the Surgeon-General, whatever the demands might be.

Five thousand physicians a month for an indefinite period is the requirement, and those doctors who are of the opinion that other physicians in their immediate neighborhood are better qualified or have less responsibility than themselves, should, in view of the crisis now facing us, subjugate their individual opinion and apply to their nearest examining board for a commission in the Medical Reserve Corps.

A medical reserve corps should be what its name implies, a corps of reserve physicians upon which the Surgeon-General may call, and this country today should have a reserve corps of not less than 50,000 doctors and every physician should feel it his duty to be part of this organization.

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WHY SHOULD THE SURGEON-GENERAL APPEAL FOR MEDICAL OFFICERS?

OF the 146,000 doctors in the United States, it is a safe calculation that at least 70,000 of the number are within the age limit, from 21 to 55 years, and are physically and morally qualified to serve as medical reserve corps officers.

Why, in view of this fact, the Surgeon-General's Office should be hard put to secure a sufficient number of medical officers to supply immediate demands and to furnish a reserve force of between forty and fifty thousand doctors is not quite comprehensible.

Every qualified physician, knowing how essential his services are to his country, at this particular time, should consider it not only his duty, but a privilege to take part in this glorious struggle for humanity and democracy.

This is the time when individual opinion must be sacrificed for the benefit of the whole and the time is near when every doctor must be in one or two classes: either a member of the medical reserve corps, United States Army, or in the volunteer medical service.

If you are between the age of 21 and 55 years, and there is a doubt in your own mind as to whether you are qualified or not, let the Surgeon-General determine this matter by applying at once to your nearest Medical Examining Board for a commission in the Medical Reserve Corps.

MEDICAL NOTES.

LONDON MORTALITY RATES.—The mortality rate in London during June, 1918, totaled 11.8 per thousand inhabitants living. In the various districts and boroughs, the highest rate was 15.8, in Southwark, and the lowest, 8.8 in Wandsworth.

THE IRISH MEDICAL ASSOCIATION.—The annual meeting of the Irish Medical Association was held recently in the Royal College of Surgeons, Dublin, under the presidency of Dr. G. E. J. Greene. After a brief address from the president, the meeting discussed the position and organization of the medical profession in Ireland. There are at present three medical bodies in Ireland, the Irish Medical Association, the British Medical Association, and the Irish Medical Committee, each claiming in some degree to represent the profession. There is, of course, some overlapping of functions, and waste of energy is unavoidable, while this condition continues. The Irish Medical Association has now directed its council to endeavor to persuade every member of the profession to join the association, which would thereby become the representative association for the whole country. The meeting had also under discussion the possibility of increasing the number of medical men in Parliament, and a discussion took place concerning the remuneration of constabulary and coastguard medical officers.

PEKING UNION MEDICAL COLLEGE.—The annual announcement of Peking Union Medical College for 1918 gives an account of the history and organization of this institution. The medical school was founded in 1906, following the disorganization of mission work that resulted from the Boxer outbreak. In the spring of 1914, the China Medical Board of the Rockefeller Foundation acquired the property of the Union Medical College in Peking, and in July, 1915, assumed the full support of the college.

The college has been reorganized and the work for 1919 will be divided between two schools: the medical school, which will give a four years' course in medicine and an additional year of special work in the laboratories or hospital; and the pre-medical school, which will offer a three years' course preparatory to admission to the medical school. The language of instruction has been changed from Chinese to English.

The announcement contains information regarding requirements for admission to the medical and pre-medical schools. The buildings and equipment, the religious and social activities of the students, and the courses offered are described.

Huntington's Prevention Measures.—The Board of Health of Huntington, New York, has taken measures to regulate the civil environment. Prevention measures, such as curfew regulations, have been adopted.

Civil populations have been found to be a very serious menace to the health of the soldiers. These include not only the immediate zones surrounding the camps, which may be cared for by the local authorities in coöperation with the United States Public Health Service, but the large cities as well, though distant from actual military life. In a recent report it was noted that very much of the infection of soldiers should be credited to the places through which they pass on the way to the camp.

It is not merely the actual army that is involved in this question. Dr. Guilford H. Sumner, secretary of the State Board of Health of Iowa, is authority for the statement that prostitutes in this country have infected about half a million men in what is virtually our reserve army, namely, among the registered men not called in the first draft. Women on the street, therefore, constitute one of the most effective aids to the Germans, and stringent regulations like those of Huntington, well enforced, become the patriotic duty of every board of health in the land.

Ozone for Swimming Tanks.—Wallace A. Manheimer, secretary of the American Association for Promoting Hygiene and Public Baths, suggests that ozone is better for the purification of swiming pools than any other available material. Ultra-violet light is ineffective when confronted with the actual conditions of the problem, while copper sulphate in low dilutions is unreliable, and at high strength is costly and makes the water disagreeable to bathers. Chlorine compounds are effective from the viewpoint of disinfection, but require a better knowledge of chemistry to strike the balance between odor and taste on the one hand and bacterial purity on the other, than can be expected of the ordinary bath attendant.

Ozone is most highly recommended for purifying water, Rosenau having classed it as a germicidal agent next in effectiveness to boiling, and is easy of application. Practical tests made in New York showed that with one part ozone per million parts of water, there was sterile water, while with half the ratio of ozone, the sterilization was a few tenths of one per cent. lower. The cost of installation in normal times will be about three cents per gallon of capacity of the pool, while for operation, from fifteen to thirty cents a day for electric current and calcium chloride. The mechanism is automatic and the cost of installation, it is asserted by Dr. Manheimer, will readily be met by economies in water if, as in New York City, it is necessary to pay for the water supplied to the pool.

Folk-Medicine in the Aran Islands.—In *The Lancet* there has been published recently an interesting article concerning folk-medicine in the Aran Islands. A number of beliefs which still survive there are described. If, for instance, a child is bitten by a dog, it is thought that an evil influence enters him, and he is promptly treated with a hair of the dog. The hair of the animal is rubbed stiffly across the boy's mouth, causing intense torture to the bleeding patient who has just been bitten on the mouth. The dog is then thrown into the sea. The "saliva cure" is another means of defeating the purposes of the evil eye. The person accused of casting a spell can also cure it by spitting. Sputum was doubtless once held to convey the soul or, like blood, to contain the soul and, on the homeopathic principle, the magician's soul can cure the evil wrought by the magician's eye. In cases of acute disease, "the first resort is the saliva cure, and should the person accused of casting the spell resent the insinuation and not be friendly disposed in that special direction, the patient's progress and relief from suffering are supposed to be hindered until he (the caster of the spell) enters the sick room and saturates the bed-clothes with this filthy secretion."

A new-born child in Aran must be duly spat upon by the first person entering the lying-in chamber, and the compliment must be extended first to the mother, then to the medical man, nurse, or other attendant. The Aran Islanders regard this spitting as a potent charm.

The Aran Islanders believe that fairies meet them in certain places, as for instance on the rocks of the lonely seashore, and that they there work spells on them, damaging to health. Aran mothers believe that sick children are changelings, and that fairies take their souls away. The Aran women, like all tribal women, are truer to the primitive type than the men, who travel and come under the influence of modern ideas.

Physicians Who Signed the Declaration of Independence.—Among the signers of the Declaration of Independence of the United States of America on July 4, 1776, were the following physicians: Josiah Bartlett, New Hampshire, born in November, 1729; Lyman Hall, Georgia, born in 1731; Benjamin Rush, Pennsylvania, born December 24, 1745; George Taylor, Pennsylvania, born in 1716; Matthew Thornton, New Hampshire, born in 1714; and Oliver Wolcott, Connecticut, born November 26, 1726. They died at the ages of 66, 53, 65, 89, and 72, respectively.

The American Board for Ophthalmic Examinations.—The American Board for Ophthalmic Examinations at a recent meeting held in New London, Connecticut, decided to hold its next examinations at the New York Eye and Ear Infirmary, New York, Friday, October 25. Dr. William H. Wilder, Chicago, was elected Secretary of the board.

The examinations next October will be the fifth to be conducted by the board. This board is composed of representatives of the American Ophthalmological Society, the Section of Ophthalmology of the American Medical Association, and the Academy of Ophthalmology and Oto-laryngology. By arrangement with the American College of Surgeons the board has become the Ophthalmic Credentials Committee of the College, and conducts the examinations of the ophthalmic candidates for Fellowship in the College. The examinations as stated in Bulletin No. 1 of the College are as follows:

In addition to the general requirements for admission to Fellowship (except Article 9), the examinations in ophthalmology consist of: first, case records; second, written examinations; and, third, clinical laboratory and oral examinations, or so much thereof as may be judged necessary;

(*a*) Candidates in ophthalmology are required to submit twenty-five complete case records in accordance with Article 9. Ten of these records should be of cases of ocular diseases and defects of varied character, including errors of refraction or muscle balance; external ocular diseases or diseases of the uveal tract or retina, or of the optic nerve, or glaucoma. The reports should show especially the reasons for the diagnosis and for the operative treatment, and the technic of operations.

(*b*) The written examination will test the candidate's knowledge of the underlying principles or science of ophthalmology, including anatomy, embryology, physiology, physiologic optics, pathology, relations of the eye to other organs and diseases of the body.

(*c*) The oral examination will include:

The external examination of the eye.

Ophthalmoscopy. (Candidates are requested to bring their own ophthalmoscopes.)

Measurements of errors of refraction.

Testing of the ocular movements and fields of vision.

Relations of ocular conditions to diseases of other parts of the body, and their treatment.

Laboratory examination in histology, pathology, and bacteriology of the eye.

Further information may be had upon request from the American College of Surgeons, 25 East Washington Street, Chicago.

The American Board for Ophthalmic Examinations.—The American Board for Ophthalmic Examinations was organized in 1916, for the purpose of systematizing and standardizing training of those practising ophthalmology. It consists of nine members. The three functions of the board are:

1. To establish standards of fitness to practice ophthalmology.
2. To investigate and prepare lists of medical schools, hospitals, and private instructors recognized as competent to give the required instruction in ophthalmology.
3. To arrange, control, and supervise examinations to test the preparation of those who desire to practise ophthalmology, and to confer a certificate upon those who meet the standards established.

The board issues no degrees, but certifies any who voluntarily apply and satisfy the board of their fitness. This movement is undertaken for the purpose of raising the standard of ophthalmology. Whenever candidates fail to pass the examination, it will be the desire of the board to induce such men to make an effort to overcome their deficiencies, and the board will gladly make suggestions as to what courses should be pursued by such candidates to enable them to establish their fitness. In some cases, the applicant's professional record may be so well established that he may be certified without further examinations.

WAR NOTES.

Follow-up Work among Tuberculous Soldiers.—In a recent issue of the Journal, the importance of following up cases of tuberculosis among soldiers was commented upon. In this connection, the July Bulletin of the National Tuberculosis Association describes the work which is being done in the different States.

"In Iowa, advantage is taken of a state law under which the county commissioners may be required to expend $15.00 a week for the care of a tuberculous patient; and the central division of the Red Cross has urged its home service sections to avail themselves of such public resources, supplementing the expenditure if necessary.

The Minnesota agreement applies not only to discharged soldiers but is broadened to include the collection of information regarding men rejected in the draft. Therein it takes account of a problem which, as regards numbers involved, is, of course, much greater than that which is confined to men subsequently discharged from the Army. The initial contact in all cases is to be made by the Red Cross, except where 'local health departments express a willingness' to do so,—this exception applying to Duluth, Minneapolis and St. Paul. It is also provided that the services of medical experts for diagnosis, instruction and public lectures are to be supplied by the Advisory Commission of the State Sanatorium for Consumptives, which is a party to the agreement. All public health nursing service required will be furnished by the Minnesota Public Health Association. In the event that funds cannot be obtained from other agencies for the treatment of tuberculous patients, the entire expense of such care it is provided is to be borne by the local chapters of the Red Cross.

The southern States of North Carolina, South Carolina, Georgia and Tennessee recently conferred at Atlanta with the southern division of the Red Cross, and reached an agreement which has already been signed in North Carolina and perhaps by this time in the other States. As in Minnesota, this agreement provides for securing information regarding men rejected in the draft. The Red Cross does not agree to take any part in securing treatment for these men, this apparently being regarded as outside the scope of home service sections, but the other two agencies—that is, the Board of Health and the Tuberculosis Association—are permitted to use the reports regarding these men from home service sections as the basis for developing local interest in obtaining treatment from other sources. The financial arrangement is that the Red Cross will pay for the temporary care of the discharged soldier, and that 'in the more permanent treatment it will be the policy of the Red Cross to provide for one-third or more of the necessary expenses, as determined by the exigency of the case, over and above what the family can provide.' Initial contact is to be made by the Red Cross except in localities which have tuberculosis societies."

Work of Dr. Louisa Anderson in London Hospitals.—Letters from Dr. Louisa Gerritt Anderson of London give interesting glimpses of what has been accomplished by a group of women physicians during the last three years. Although brief and written under great pressure of anxiety and work, they reveal many important phases of life which go to make up the present war history.

Her letters tell of the opening of a hospital of 520 beds in London under the control of the military office, with Dr. Anderson supervising the professional side, and Dr. Flora Murray in charge of administration, fourteen other women doctors and eighty others employed as orderlies, stewards, etc. The latest communications describe the taking of an old workhouse infirmary in Endell Street, a four-story building built around a court yard, and where there are 570 beds and 150 more in an auxiliary hospital close by. A full three years of work was celebrated with a varied program, in which 43 of the original staff, who had served continuously from the beginning, took part.

More than 5000 operations have been performed.

In the most recent communication, Dr. Anderson writes that she and her associates are longing to be of service to the American troops. She speaks, also, of the closer bond of sympathy that is growing between the two nations, and the better understanding among men and women through devotion to a common cause, which all are exhibiting.

Health of Troops.—The health of troops in the training camps and cantonments of the

United States during the week ending July 26 was very good. The death rate for the week was 2.12, the lowest recorded since last October. Deaths numbered 104.

COMMISSIONS IN MEDICAL RESERVE CORPS.—The following commissions in the Medical Reserve Corps have been announced:

Major. J. A. Ceconi, Dorchester.

Captains. Edward Martin Crane, Hardwick, Vt., Fritz W. Gay, Malden; T. W. Murphy, Lawrence; W. J. Sanborn, Boston; F. R. Sims, Melrose.

First Lieutenants. Charles G. Wiles, Brockton; E. P. Hand, Holyoke; J. J. Hilton, Lawrence; H. E. Lynch, Holyoke; C. C. Sturgis, Boston.

THREE BROCKTON DOCTORS COMMISSIONED.—Three Brockton doctors have recently entered service in the Medical Reserve Corps: Lieutenant L. Mara will go to Fort Oglethorpe, Ga., for a brief period of preliminary training. Dr. Thornton A. Landers, for more than a year interne at the Brockton Hospital, and recently engaged to remain at the hospital for special work, has been called for special duty at Fort Slocum. Dr. Joseph H. Lawrence, a member of the surgical staff at the Brockton Hospital, has been appointed captain in the Medical Reserve Corps.

MARBLEHEAD DOCTOR COMMISSIONED.—The first physician from Marblehead to enter the service is Samuel G. Eveleth, who has been appointed first lieutenant in the Medical Reserve Corps. He graduated from Harvard Medical School in 1908 and served at the Relief and City Hospitals in Boston. He has practised in Marblehead since 1909.

MEDICAL MILITARY SERVICE A PRIVILEGE, NOT A SACRIFICE.—In military hospitals the most dreadful consequences of war are certainly to be seen, and there, if anywhere, thoughtful observers might be expected to form the conviction that peace is worth any price and war altogether unjustifiable and altogether detestable. Some of them do, as is only too well known, but others, and fortunately the great majority, see the "horrors of war" in their relations, not in the absolute, and reach a different conclusion.

One who has done so is a doctor from Kentucky, who has written home a letter showing that what have impressed him are not the horrors of war, though he has seen them at their worst, but the heroisms and the self-forgetting devotions of the men he is able to help and serve. Of himself he writes:

'I feel every day that it is one of the greatest privileges of my whole life to be here and feel that I can do even a little to make their heavy burdens a little easier to bear. I would not have missed coming for anything in the world, and shall be happy and grateful all my life that by studying medicine I have not only been able, as the world calls it, to succeed as a doctor in civil life, but, greater still, to be able to do the work that I can do here.

One simply cannot do and see all the things we see here without being bigger and better for it. As you can easily imagine, we see many, many things every day that fill our eyes with tears, but, on the other hand, we see so much and have the chance to do so much good that it far overbalances on the right side, and I have long since decided that, instead of making a sacrifice to come, it has been a great privilege."

TEACHERS IN MEDICAL SCHOOLS MAY BE DRAFTED.—Nearly 50,000 doctors will be required for war service eventually, according to the Army and Navy authorities, and in order to prevent the disorganizing of the teaching staffs of the medical schools, it is proposed to commission all teachers and assign them to their present duties. Of the 143,000 doctors in the United States it is estimated that between 80,000 and 95,000 are in active practice and that 23,000 are in the Army or Navy.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending August 3, the number of deaths reported was 200, against 249 last year, with a rate of 13.30, against 16.81 last year. There were 48 deaths under one year of age, against 32 last year.

The number of cases of principal reportable diseases were: diphtheria, 32; scarlet fever, 9; measles, 54; whooping cough, 40; typhoid fever, 3; tuberculosis, 51.

Included in the above were the following cases of non-residents: diphtheria, 9; scarlet fever, 1; typhoid fever, 1; tuberculosis, 13.

Total deaths from these diseases were: diphtheria, 2; measles, 2; typhoid fever, 1; tuberculosis, 15.

Included in the above were the following non-residents: typhoid fever, 1; tuberculosis, 2.

Boston Public Health.—The *Public Health Bulletin* of the city of Boston for June, 1918, includes several interesting articles. Among them are suggestions for the care of newborn babies and the nursing mother. The plan for protecting the health of troops from local epidemic diseases is described.

Statistics given show that 65 visits were made by the medical inspector and 390 by nurses of the Health Department. The Instructive District Nursing Association made 648 visits. One hundred and eighty-nine babies were cared for by the Baby Hygiene Association. There were 863 deaths reported in the month of June, against 999 in the corresponding period last year.

Leper Colony at Penikese.—Penikese Island, situated a few miles off the Massachusetts coast in Buzzard's Bay, is to be used as a national leper colony. United States government officials have decided to keep all the lepers of the country on the island. At the present time there are more than 1000 lepers in the United States.

Penikese will soon rival the leper colony on Molokai, one of the Hawaiian group in the Pacific.

As at Molokai, much scientific research work will be done at Penikese. This fatal disease which makes men and women outcasts from society will be closely studied in order that those suffering from it may be given additional relief.

The long search for a cure will be continued there. It is to be hoped that eventually this scourge will come under complete control of man as other malignant maladies have. Like cancer, leprosy has baffled the medical world for ages and, while numerous cures have been reported from time to time, all have failed to solve the mystery.

Through the concentration of all lepers of the United States on Penikese Island, it is believed that many valuable data will be gathered which will ultimately bring about a cure.

It is thought that the work of removing the lepers of the entire country to the little Massachusetts island will be done gradually, as many more buildings must be erected to accommodate them. At the present time there are but twelve lepers at the institution.

Commonwealth Armory Hospital for Wounded Soldiers.—The use of the emergency hospital at Commonwealth Armory has been offered to the War Department for the wounded soldiers from overseas. A medical staff and corps of trained nurses have been organized, available on call. The hospital has a capacity of 500 beds, and 100 wounded or sick soldiers can be accommodated.

Gifts of Dr. John A. Gordon.—Among the public bequests made in the will of Dr. John A. Gordon were the following:

To the Quincy City Hospital, $2000; to the Harvard Medical Alumni Fund, $200.

Bequests to Charity.—Among the bequests left by the will of Mrs. Ernestine Kettle are included the following gifts:

Ten thousand dollars to the Boston Association for the Relief and Control of Tuberculosis, and the same sum to the Industrial School for Crippled and Deformed Children, the Perkins Institution for the Blind, to the Reynolds Memorial Hospital, Moundsville, West Va., and to the Adams Nervine Asylum. A trust fund of $30,000, left to two household members, is to revert to the estate on their deaths, and is to be divided between the Perkins Institution and the Boston Association for the Relief and Control of Tuberculosis.

Public Health Bulletin of Massachusetts.—The *Public Health Bulletin*, issued by the State Department of Health of Massachusetts, for June, 1918, contains an article pointing out certain objectives of the infant weighing and measuring campaign. Almost the entire State has been surveyed by trained public health nurses to ascertain the causes of infant mortality, and, in a large number of communities, active work has been started to remove these causes. In Cambridge, out of 4,052 children under five examined, 470 were found to need special care.

One of the first essentials for the reduction of infant mortality is the protection of the mother before and after the birth of her child. In this field, the public health nurse performs a most valuable service. A second factor in the follow-up work of the present baby-saving campaign is the establishment of more health conferences for both mother and child. This intensive national campaign emphasizes the necessity of stimulating communities to establish more public health centers and to employ a larger number of public health nurses.

The *Bulletin* contains, also, a note on the progress of the Massachusetts venereal disease program and reports of the Division of Food and Drugs and of the Bacteriological Laboratory. A résumé of communicable and occupational diseases is given. New legislation which has been adopted, and rules, regulations and recommendations pertaining to the business of slaughtering and meat inspection are included.

Miscellany.

BABIES IN A WAR INDUSTRIES TOWN.

THE inadequacy of protection afforded babies and the imperative need for more effective means of preventing the deaths of little children in one of the towns where conditions have been greatly changed by the growth of war industries are revealed in a report on Waterbury, Conn., made public Aug. 8 by the Children's Bureau of the United States Department of Labor. Even before the war, insanitary housing conditions, imperfect civic provision for educating mothers in the care of their children, indifference to the need of giving the many foreign born mothers the advice and help they need to make them assimilate American ways and customs, have militated to keep up the infant death rate which averaged for the years 1910-1915 146.5 per thousand, or about one death in every seven live births, which is nearly half again the rate for the United States Registration Area.

But the rate was not uniformly high for all groups in the city. Two thousand one hundred and ninety-seven babies born between June 1, 1913, and May 31, 1913, were included in the study. In each case a personal visit to the home was made, and the mother, or if she were not living, the person who had the child in charge, was interviewed. Rich and poor, native and foreign born were alike included, and every one of them willingly gave the information desired. Two hundred and sixty-three of the babies had died before they were a year old. But of the babies of fathers who earned less than $450 a year about one in six died during its first year, whereas when the father's yearly income was as much at $1250, the death rate was greatly reduced, and about one baby in every fifteen died. And a fifth of the births in Waterbury were in families where the father earned less than $450 a year. By far the largest number of fathers in this lowest income group were employed in the factories. Waterbury is the largest brass and copper manufacturing city in the United States. The foreign born men were much more poorly paid than the natives. About a third of the foreign born fathers earned less than $450 a year, whereas of the natives only about a twentieth belonged to this low paid group. Few foreign born fathers were earning as much as $1050.

But low income is not the only influence working for a high infant mortality rate among the children of foreign born parents. The infant mortality rate among the Lithuanians as a whole, who form an imporant part of Waterbury's population, is far higher even than that for the lowest income group to which many of them belong. Of the babies born of Lithuanian mothers more than one in five died before it was a year old. The babies of Irish mothers died at a slightly lower rate. As a whole, the babies of foreign born mothers died at a rate more than one third higher than that of the babies of native mothers.

The report points out several reasons for this higher rate among the children of the foreign born. The foreign born mother has to contend against more dangers to her child's health than those which usually threaten children of fathers whose earnings are low. The isolation of the Lithuanian group especially tends to keep the families from growing accustomed to their surroundings in this new country. Many of them have come from the free outdoor life of the farm to wrestle with crowded tenement conditions. The Lithuanians show the largest per cent. of babies fed artificially; they show also the largest per cent. of infant deaths caused by improper feeding, the neglect that comes with ignorance of modern hygiene, poor housing, combined, it may be, with summer heat against which other conditions have left the babies unprotected.

As a whole, Waterbury shows an infant death rate from preventable digestive diseases considerably higher than that for the Registration Area. The fact that modern hygiene knows how to prevent certain digestive diseases of babies is used as an argument for extending work that will give every mother the knowledge without which she can not protect the lives of her babies.

Waterbury has not ignored the need for such civic work. It has a visiting nurses' association, and, since the survey was made by the Children's Bureau, the association has extended its work. Few of the Lithuanians, however, who appear to be most in need of wise direction and advice in adapting their mode of living to the conditions in their adopted land, have availed themselves of the organization's services.

The housing conditions in Waterbury were seriously congested, even before the influx of war workers. Disrepair of buildings, inadequate and faulty plumbing, infrequent and irregular garbage collection, a milk or food supply that is insufficient or impure must, the report states, be controlled by the city if its citizens are to be guarded from disease. Yet in 1914 Waterbury appropriated only about a third of the recognized minimum for the work of its health department and in 1917 it appropriated even less per capita, in spite of its growing population. Even the greatly increased wages do not enable Waterbury's population to purchase healthful living conditions, without which the health of the community and the lives of the babies in it can not be conserved.

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HELPING PUBLIC HEALTH.

President Wilson, acting under authority vested in him by the Overman act providing for the coördination and consolidation of executive agencies, has issued an executive order, the significance of which seems to have eluded public attention.

The President has decreed that "all sanitary or public health activities carried on by any executive bureau, agency or office especially created for or concerned in the prosecution of the existing war, shall be exercised under the supervision and control of the Secretary of the Treasury." The purely military health functions of the military branches of the Government are excepted from the terms of the order, likewise "investigations by the Bureau of Labor Statistics of vocational diseases, shop sanitation and hygiene." With the exceptions noted, it places under the jurisdiction of the Treasury Department, which is exercised through the Public Health Service, all those agencies concerned in problems of sanitation and hygiene as far as they affect the war efficiency of the nation. It is a long step toward the creation of a Department of Health with a member of the cabinet at its head. It brings all the established health activities under one general head. It charges with tremendous responsibilities the organization of the Public Health Service, of which Surgeon General Rupert Blue is the chief.

It is to carry out the ambitious plans of the Public Health Service that the President's order was written. It will enable General Blue to mobilize the civil medical forces of the Nation; to put into effect an outlined and detailed campaign looking to the maintenance of manpower at its highest standard of working efficiency. Its greatest promise is the incorporation into national policy of industrial medicine and surgery as a war measure—as an essential peace measure when the war shall have been brought to a close.

The history of the movement looking to this end is of practical interest. During the past ten years industrial plants all over the country have been developing agencies for medical service; during the past five years this movement has been receiving the attention of the progressive part of the medical profession and has come to be recognized as a factor of health and preventive work. Hundreds of plants are maintaining well-equipped and well-manned health departments, through which surgical attention is given immediately an accident occurs, thus shortening the disability period and reducing the danger of fatal results. As a natural development of the studies resulting from the new methods, it soon became evident to the industrial health officers that loss of life and loss of time through accidents were only minor factors in connection with industrial efficiency. The loss of time through illness more recently has been given broader attention and statistics have been gathered proving that this loss of time is seven times as great as the loss of time through accidents. Lost time from all causes, including willfulness, accident and illness, averages ten per cent. in the industrial plants of Ohio. It is higher in some States and in a number of the mills. Where the pay runs especially high it will run to fifteen and twenty per cent. In the well-organized industries which have maintained thoroughly equipped dispensaries it has been demonstrated that absence from illness can be reduced one-half or more. Here serious illness also is detected in its early stages; and where this serious illness could not be averted, at least its serious after-effects could be avoided. Already, in times of peace, this plan of industrial surgery and medicine had come to be recognized as a social and economical principle; as a war measure its importance is patent.

More than a year ago the American Federation of Labor, through President Samuel Gompers, established a committee on standards for industrial sanitation. It is the application of these standards which is of present concern. But this movement originated with a section of the medical profession, not with organized labor. A small group of forward-looking men recognized its possibilities years ago. Dr. Otto P. Geier of Cincinnati is one of them and has been active in the movement since its inception. He figured it out from an executive point of view and submitted a detailed plan to the National Safety Council, fostering the creation of a health service section, which brought the industrial surgeons of the country together in one organization, and which resulted in 1916 in the formation of the American Association of Industrial Physicians and Surgeons, which now has a membership of 500. Its president is Lieutenant Colonel Mock.

A comprehensive plan finally was designed to give the Government and the people the benefit of the ripened experiences of the pioneers in the field. The National Council approved and created the Committee on Industrial Medicine and Surgery of the General Medical Board of the Council of National Defence, with Dr. Otto P. Geier as director and with Royal S. Meeker, commissioner of labor, and Dr. Franklin Martin, chairman of the General Medical Board, as members. It is largely due to the educational campaign conducted by this committee that the importance of the subject was brought to the notice of the President, resulting in the issue of the order which will make industrial sanitation a national policy throughout the duration of the war, placing its extension to all the war industries of the Government under the direction of Surgeon-General Blue of the Public Health Service. But one final step is necessary, the passage of legislation giving force to the need of expansion in the organization. Senate Joint Resolution No. 63, making due provision for it, creating a Sanitary Reserve Corps, has already passed the Senate. It has been favorably reported to the House, but occupies an unfavorable position on the calendar. Until the House acts, the activities of the Public Health Service will remain circumscribed. One of the first requisites will be the appointment of a director of industrial sanitation and hygiene, with the rank of senior surgeon."

Dr. Geier believes that "the principles of industrial medicine and surgery intelligently applied can reduce this six per cent. loss to three per cent., making a gain of thirty workers on the job in every thousand. A cleaner plant and healthier workmen will result in a greater output per man. There will be a more sympathetic understanding between employer and employee; a better *esprit de corps,* resulting in a smaller turn-over. The protection of the health of the community is quite as essential as the health of workers. Fully thirty per cent. of the effective medical and surgical capacity of the profession has been drawn into the Army. Of the visiting hospital forces, twenty-four per cent. has been called into the service. This indicates that the civil population does not possess adequate medical service. Under strain of war conditions, disease and injury are increased. To meet this discrepancy, a method must be found by which every physician not in the army may give the maximum result with his minimum effort, so that the community may be protected. The placing of the physician in industry accomplishes that need. Applying his preventive measures to the large industrial unit on an intensive scale, the industrial physician assists the community in its health efforts, lessens disease, and lessens the strain on the physicians in private practise.

"To meet the problem the Government must provide against unnecessary human waste in industry and society; increase output by maintaining workers in good health; avoid preventable deaths and disabilities from accident and disease; restore in the shortest possible time full producing power to the sick and injured workers; provide healthful places in which to work; provide healthful homes and communities in which to live. The Public Health Service, under the President's order, will help lay out new towns, provide sewage and water, eradicate malaria, protect centres against epidemics, plan hospitals and dispensaries. It will take over the activities of the Shipping Board, which has already sought to organize a health and sanitation board of its own, look after sanitation of the military camps and adjacent communities, and assume some of the functions now assumed by the War Risk Insurance and the Federal Employment Compensation Commission."